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ABSTRACT

In an effort to identify the kinds of vocational experiences that appear to be the most promising in reducing the dropout rate, two distinct research strategies were used. The first strategy involved analysis of data available from the High School and Beyond Project, a nationally representative sample of students and schools surveyed in 1980 (when the students were sophomores) and resurveyed in 1982. The second strategy involved contacting a sample of nine exemplary dropout prevention programs and securing descriptive data from them regarding their orientation, organization, and operations. In general, project results confirm that participation in vocational education is positively related to high school retention. Rather than participate in the mainstream of the vocational program, however, dropouts tend to participate more in exploratory and consumer/homemaker or industrial arts courses than in job-skill training courses. Also, they tend to be involved in work-study experiences that do not appear to be directly related to their overall high school programs. Included among the project recommendations are the following: more systematic efforts to identify potential dropouts; programmatic activities to reduce absenteeism, theft, and drug abuse; activities to enhance parents' involvement; more extensive career exploration and career education experiences; and review of dropout-prone students' work-study experiences. (CT)

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THE ROLE OF VOCATIONAL EDUCATION IN DECREASING THE DROPOUT RATE

James M. Weber

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FOREWORD

The high school dropout problem is neither a new nor abating concern in our society. Available data suggest that since the 1970s slightly less than 30 percent of the students who enter 9th grade leave school prior to graduation, which translates into approximately 800,000-1,000,000 youth dropping out of school annually. The decision of these students to leave school has far-reaching implications, both for them as individuals as well as for society as a whole.

There is a growing body of research that suggests vocational education can serve in concert with other factors to help dropout-prone students complete their high school education. The present study represents an effort to identify the kinds of vocational experiences that appear to be the most promising in terms of achieving such an outcome. It also describes the kinds of vocational and associated educational experiences that could be used to encourage students to remain in school as well as profit from that continued involvement. This report, which summarizes the results of that effort, should provide vocational researchers, administrators, and policymakers at both the State and local levels with information and insights on various ways vocational education can be used to help decrease the dropout rate of secondary school students.

This study was conducted in The National Center's Evaluation and Policy Division. Project Director, James Weber, was aided by Lee Blanton, Program Associate, in securing and analyzing the exemplary program data, and Vicki Owens who provided clerical support. The quality of the resulting report was enhanced by the comments and suggestions of a number of reviewers. National Center staff who reviewed the draft document included Lee Blanton, Program Associate; Larry Hotchkiss, Research Specialist; and Linda Lotto, Assistant Director for Planning. In addition, Don Brannon, North Carolina Department of Public Instruction; Otto Luther, Boy's Town Center; Marilyn Raby, Sequoia Union High School District; Mary Long Pritchard, Public/Private Ventures, Inc.; Roger Hansen, Alternative School Director; Mike Occhipinpi, Washington High School; and Chuck Minichiello, Project CLIMB, provided insightful reviews and evaluations. Editing of the report was provided by Judy Balogh, Ruth Morley, and Connie Faddis of the National Center's editorial staff. This project was conducted under a contract with the Office of Vocational and Adult Education, U.S. Department of Education.

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EXECUTIVE SUMMARY

As our population ages and skill requirements for participation in the work force increase, the negative consequences associated with a continuing dropout rate of slightly less than 30 percent (800,000-1,000,000 youth per year) will become more critical both for those individuals who drop out and for society as a whole. The likelihood of dropouts having a negative labor market experience such as increased unemployment, decreased earnings, and fewer promotions will be even greater than it is today. At the same time, such societal implications as reduced tax revenues and possibly increased welfare and prison costs are likely to result. The growing severity and negative impacts stemming from continuation of our current dropout rate necessitates the commitment of increased attention and resources to find causes and potential remedies for this problem.

Although the dropout problem is widespread and complex both in its nature and effects, a growing body of research suggests the problem can be positively addressed and significant reductions in both its intensity and impact can be realized by means of improved, targeted educational programming. One component of many dropout prevention efforts has been vocational education, coupled with work experience. The available data suggest that this component can be a major contributor to the overall success of such efforts. The available research generally suggests participation in vocational education is positively correlated with completing high school. But it has not provided much information regarding (1) what alternative configurations of vocational experiences are most closely related to retaining individual students in school, or (2) what alternative vocational offerings provided by different schools are most closely related to reducing dropout rates across those schools.

The present study used the sophomore cohort of the High School and Beyond (HS&B) database, a nationally representative sample of approximately 27,000 students. In addition, the study secured information from a limited sample of nine exemplary dropout prevention programs to explore the retentive effects of vocational education in more detail and to examine alternative configurations of vocational experiences that appear closely related to those effects. The resultant findings were then used to develop recommendations on potential avenues for increasing the effectiveness of vocational education in retaining secondary school students.

In general, the project results support earlier research findings and reconfirm that participation in vocational education is positively related to high school retention. At the same time, however, the current results suggest that dropouts do not engage in much preplanning regarding their high school programs,

nor do they typically participate in the mainstream of the vocational program. Rather, they tend to participate more in exploratory and consumer/homemaker or industrial arts courses than in occupational (job-skill training) courses. Also, they tend to be involved to a greater extent, particularly early in their high school careers, in work-study experiences that do not appear to be directly related to their overall high school programs. As a result, it is essential that a more widespread effort be made to ensure that dropout-prone students receive additional help in entering and following a normal progression of learning activities in the vocational program--a progression that leads to acquisition of the employability and basic entry-level job skills needed in an occupational area of their choice.

The project results, as well as the results from earlier studies, suggest several general and several vocational-specific recommendations. Included among these recommendations are the following:

1. More systematic and intensive efforts need to be undertaken to identify and assist potential dropouts prior to, at the transition point, and during their high school careers. Included among these suggested efforts are--

   - o the development and implementation of local, multidimensional student-centered decision rules that are reliable drop out indicators;
   - o the implementation of more extensive guidance and counseling services for dropout-prone students, such as improved interest/ability assessment, program planning assistance, and vocational program awareness activities;
   - o the development of educational plans for dropout-prone students that are similar to individualized education plans (IEPs) used with handicapped students; and
   - o the initiation of a follow-through system for dropout-prone students to help ensure that they are progressing toward their planned goals.

2. Programmatic activities to enhance school "climate" and reduce absenteeism, class-cutting, theft, and drug/alcohol abuse should be initiated and/or given more emphasis.

3. Systematic awareness and education activities directed toward enhancing dropout-prone students' parents' involvement in program planning and support should be developed and implemented.

4. More extensive career exploration and related career education experiences should be provided for dropout-prone students, particularly prior to and at the transition point into high school.

5. Mechanisms for improving dropout-prone students' transitions through the vocational program, so they avail themselves of the job specific skill training courses rather than just exploratory types of courses, need to be established and implemented.

6. Dropout-prone students' work-study experiences, particularly those of students early in their high school careers, should be carefully reviewed and evaluated in order to ensure that they involve concrete objectives and programmatic experiences, clear linkages with the students' overall school programs, well-defined communication linkages between employers and the schools, and built-in evaluation activities.

7. Existing rules governing vocational program entry, particularly for dropout-prone students, need to be reviewed in order to ensure that students are not being kept out of those programs (unnecessarily) while being allowed or even encouraged to participate in work-study programs that have few, if any, ties with their overall school plans/goals.

8. Programmatic activities should be undertaken to heighten dropout-prone students' involvement in the vocational program and to enhance the linkages between their vocational experiences and their other school-related activities/experiences.

CHAPTER 1

BACKGROUND

Dropouts--A Continuing and Pervasive Problem

The problem of high school dropouts is neither a new nor abating issue in our society. For example, two years after the opening of the first publicly supported high school in 1821, 76 of the entering class of 176 had dropped out (Stevens and VanTil 1972). At the turn of the century only 11 percent of all high school-aged youth were actually in school (Thornburg 1974), and about 90 percent of the male students failed to receive high school diplomas (Bachman, Green, and Wirtanen 1971). Since that time, the emphasis upon compulsory, universal education has both increased the high school age population and helped to reduce the dropout rate.

Not until the 1950s, however, did the dropout rate decline to below 50 percent. Currently, it is estimated that at a national level almost 30 percent of the students entering 5th grade leave school prior to graduation (Sewell, Palmo, and Manni 1981). This dropout rate has remained relatively constant since the 1970s and translates into approximately 800,000-1,000,000 youth dropping out of school annually (Buxton 1984; Grant 1973).

Much of the available data suggest that dropping out of high school is related to a variety of individual and social consequences:

- Individual consequences--Dropping out, along with the attendant lack of a basic education, contributes to the disappointments, frustration, and sense of alienation felt by many of those youth who leave school, as well as to their inability to secure and retain employment. Also, high school dropouts can expect to earn less over their lifetimes than graduates. For example, the lifetime income for male dropouts is approximately 70 percent of the income for male graduates who do not attend college (Governor's Study Committee on High School Dropouts and Unskilled Graduates 1981). In addition, dropouts typically have fewer employment opportunities and advancements, pay less tax monies, and are more often on welfare.

- Legal consequences--Some research (Novak and Dougherty 1979) suggests that a greater amount of criminal activity is correlated, but not necessarily causally related, with dropping out of high school (Bachman, Green, and Wirtanen 1971). Police

statistics suggest that dropouts are 6 to 10 times more likely to be involved in criminal acts than are in-school students (Jones 1977). About 85 percent of the inmates in state prisons are school dropouts (O'Morrow 1976).

- Health-related consequences--"Recent studies reported in the New England Journal of Medicine reveal that high school dropouts are significantly more likely to suffer from high blood pressure and heart attack" (Buxton 1984, p. 6). This correlation is presumed to be due, at least in part, to the high level of stress in their lives. Buxton concludes that even the simplest tasks, such as completing an employment application or getting a driver's license, may be quite threatening when one can't read or write.

- Educational consequences--The dropout problem tends to be self-perpetuating. One study conducted in West Virginia reported that 75-80 percent of the students who drop out of school have parents who dropped out (Buxton 1984). Dropping out also appears to be related to discipline problems, truancy, student violence, alcohol and drug abuse, and teenage pregnancy (Weber et al. 1982). In a survey of school administrators (Neill 1979), the respondents cited the permanent intellectual and/or vocational damage to students as well as the overall lowering of school standards and achievement as a major negative consequence of dropping out of high school.

- Economic consequences--Recent evidence suggests that the failure of many students to complete high school can have far-reaching economic implications. For example, McDill, Natriello, and Pallas (1985) noted that a "task force of the New York State Senate attributed the decline in New York City's economy in part to high dropout rates, particularly among black youth" (p. 6). Also, Jones (1977) reported the results of a study concerned with assessing the losses to the nation in 1969 that could be associated with 25- to 35-year-old males who had not completed high school. The study estimated that the lost income was $71 billion in foregone government revenues--$49 billion to the Federal Government and $22 billion to local governments. The welfare expenditures attributed to inadequate education were an additional $3 billion a year. In contrast, it was estimated that it would have cost $40 billion to have had the same group of men complete high school.

Although the available research does not document a cause-and-effect relationship between dropping out and the types of individual and social concerns listed, it does serve to document that the dropout problem is widespread and complex, both in its nature and effects. Likewise, the act of dropping out, which is an individual decision, is rarely the result of a single factor; rather, it is the result of the interaction of a number of factors that culminate in the decision to leave school. Many of the factors frequently mentioned by dropouts as reasons for leaving school are summarized in table 1.

Furthermore, for most youth the decision to drop out of high school does not "just happen." By the time a potential dropout enters high school many predictive signs are already present. If a youth comes from a poor and perhaps broken home, has a history of poor work and failure in school, then that person has a greater than average chance of becoming a dropout (Bachman, Green, and Wirtanen 1971).

Context of Efforts to Resolve the Dropout Problem

Current efforts to address the dropout problem have been affected by two major movements within our educational system--the quests for equity and excellence. The first of these movements has resulted in a broadening of educational offerings and alternatives to better meet the needs and interests of a more diverse student population (e.g., mainstreamed handicapped youth, bilingual students, and other special needs students, including potential dropouts). Two legislative landmarks related to this movement are Title I of the Elementary and Secondary Education Act (currently ECIA-chapter 1) and Public Law 94-142. The first of these laws was directed toward improving the educational opportunities afforded the educationally disadvantaged, while the latter focused upon providing equal educational opportunities for the handicapped. The push for educational equality has also been a major emphasis in a variety of other education/training legislation (e.g., CETA, JTPA, Vocational Education Act of 1965, and the Carl D. Perkins Vocational Education Act).

The growth of efforts to achieve "equity" over the past two decades has been paralleled by a growth in the field of vocational education. Proponents of vocational education have argued that it represents one of the few educational alternatives that enable many youth, including those deemed to be disadvantaged, handicapped, and potential dropouts, to become productive citizens and to lead fuller lives in our society. Their rationale for this argument is based on the kinds of issues listed in table 2.

TABLE 1

SUMMARY OF *REASONS REPORTED BY DROPOUTS FOR LEAVING HIGH SCHOOL

Reasons for Leaving	**Sources and Percentages: Peng and Takai (1983) Male	Female	Kumer & Bergstrand (1979) All Students	Appelbaum & Dent (1984) All Students	Bachman et al. (1971) Males	Resta, and Temple (1978) Male	Female
School-related:							
1. Expelled or suspended	13.0	5.3	5	17.0	6.4	12.2	5.9
2. Had poor grades	35.9	29.7	12	21.4	9.6	7.3	8.6
3. *School was not for me	34.8	31.1	20	29.5	10.8	17.2	13.9
4. School ground too dangerous	2.7	1.7	5	-	-	-	-
5. Didn't get desired program	7.5	4.5	-	-	-	-	-
6. Couldn't get along with teachers	20.6	8.5	4	-	4.5	-	-
Family-related:							
1. Married or planned to get married	6.9	30.7	5	8.9	5.1	5.7	8.1
2. Was pregnant	NA	23.4	6	3.6	NA	NA	18.6
3. Had to support family	13.6	8.3	-	11.6	6.4	-	-
Peer-related:							
1. Friends were dropping out	6.5	2.4	4	-	-	-	-
2. Couldn't get along with other students	5.4	5.9	-	-	-	-	-
Health-related:							
1. Illness or disability	4.6	6.5	-	2.7	5.1	8.8	0.2
Other:							
1. Offered job & chose to work	26.9	10.7	13	-	7.0	5.2	6.3
2. Wanted to enter military	7.2	.8	4	-	-	1.5	0.0
3. Moved too far from school	2.2	5.3	2	-	-	-	-
4. Wanted to travel	7.0	6.5	-	-	-	-	-

*Respondents could mark all reasons that applied. **The sources listed represent a sample of the studies dealing with this topic that reported specific percentages per reason for leaving.

TABLE 2

POSITIVE PROGRAM CHARACTERISTICS COMMONLY NOTED BY VOCATIONAL EDUCATION PROPONENTS

Vocational Programs	vs.	Other Curricular Offerings
Learner has active role in learning process		Passive learner role
Concrete, hands-on learning experiences		More abstract, generalized learning experiences
Experiences relevant to learner's everyday life "outside the school"		Not directly relevant to learner's life "outside the school"
Rich, real-life learning environment		Sterile, four-walled-classroom
Learning proceeds from concrete to abstract		Learning proceeds from abstract to abstract, principle to principle
Learning occurs within an "application" context		Learning is context free
Small group, even one-on-one instruction		Classroom and other types of "large group" instruction
Content and delivery variations related to areas of specialization		"Standard", lock-step curriculum with relatively little variation and minimal review/change
Routinely revised/updated using inputs from authoritative sources (e.g., business persons)		Based upon few inputs from outside the "educational establishment"
Preparation for labor market entry, but does not necessarily limit learner's postsecondary options		Preparation for additional schooling or a "general" education not directed toward either a job or further education

The results of a number of studies suggest that vocational education is an important, if not a critical, component of efforts to train those who have left school for gainful employment as well as to address their other education-related needs, e.g., their basic skills deficiencies (Weber et al. 1982). Furthermore, there is a growing body of research which suggests that vocational education can help to prevent potential dropouts from leaving school. A study conducted by Mertens, Seitz, and Cox (1982) found a small positive association between high school graduation and vocational credits earned. This finding corroborated the findings of several earlier research studies (e.g., studies by Coombs and Cooley 1968; Grasso and Shea 1979; Woods and Haney 1981; Perlmutter 1982). These research results also tend to reinforce the findings obtained from follow-up surveys conducted in several states. For example, North Carolina students were asked, "Was vocational education a main reason you stayed in school?" A summary of their responses indicated that approximately one-fourth of those surveyed responded "Yes" to this item (Brannon 1985). In a paper that explored the characteristics of what were deemed to be effective dropout prevention programs, Lotto (1982) concluded that "vocational education and work experience are powerful components of a dropout prevention strategy, but they cannot function alone" (p. 47).

Although much of the available data suggest that participation in vocational education can be influential in preventing students from dropping out of high school, a major dilemma facing policymakers, administrators, counselors, and other school personnel is that the available research has been rather limited in scope and has not provided much information regarding such basic concerns as these:

- What alternative configurations or types of vocational experiences appear to be most closely related to individual students' completion of high school?

- What alternative vocational experiences offered by different high schools are most closely related to reduced dropout rates across those schools?

- What vocationally related features or characteristics of exemplary dropout prevention programs appear to be most effective in enhancing the completion rates of the potential dropouts they serve?

The quest for educational equity has been accompanied by what has been perceived to be a weakening in the requirements and academic standards of American high schools. This perception has led to a second educational movement, sometimes called "the excellence movement," with its attendant push for higher educational standards in course content, the use of time, and student

achievement. Generally, the proponents of this movement have emphasized the need for these enhanced standards to be applied

> to all students in all schools at all levels. The consequent messages of the major reports are clear (if not unanimous). All students should undertake a tougher core curriculum with fewer electives. Stricter policies on attendance and the use of school time should be matched by firm, explicit, and demanding requirements for homework. Grades must measure actual academic accomplishment and not motivation. Promotion should be a direct result of adequate performance. Students should take tests of achievement at major points of transition. (Kaplan 1985, p. 12)

For example, the National Commission on Excellence (1983) advocates that five new basics to be taken by all high school students. These basics include four years of English; three years each of mathematics, science, and social studies; and one-half year of computer science (McDill, Natriello, and Pallas 1985). Such suggested core course requirements would constitute approximately 13 1/2 credit units that would need to be completed by all high school students.

Although concern with achieving greater excellence in our schools has been growing over the last decade, the data and allied research available to date do not support many of the main tenets exposed by proponents of that movement. If nothing else, the available research suggests it is not realistic to expect that all students can learn from the same materials, to the same standards of performance, in the same amounts of time, taught by the same methods (Cross 1984, p. 171). This generalization is in direct contrast to the major planks of the current reform movement, which basically call for the use of a uniform, "undimensional" set of core courses, lengthening the school day, assigning more homework, and having students complete minimum competency tests at selected junctures in their school programs. The bulk of the available research (e.g., Kaplan 1985; Levin 1985; Association for Supervision and Curriculum Development 1985) suggests that such standards may well interact with the complex of factors that lead students to leave school prior to graduation and serve to negate efforts to achieve equality of educational opportunity, while concurrently exacerbating the dropout problem. Indeed, Kaplan (1985) contends that the "impact on future dropouts of mandating higher academic achievement may be deadly" (p. 13). In addition, dropout youth will ordinarily not return to school unless they can enter into what they clearly perceive to be a different situation (Raby 1985).

One of the net effects of this reform movement is to reduce the time available to all students for electives, including vocational courses. For example, some research (Anderson and

Brouillette 1985) shows that increases in the academic requirements for high school graduation tend to decrease enrollments in vocational education and may directly affect dropout rates. As a result, if the retentive effects of participation in vocational education are to be fully realized, the basic concerns raised earlier need to be addressed and resolved. For example, more information is needed regarding the specific configurations or types of vocational experiences that are most likely to help keep students in school, particularly in those schools where the opportunity to engage in such experiences has been lessened due to increased academic standards. Or, what types of vocational offerings or options should schools be sure to retain and promote because of their potential retentive impact upon potential dropouts. The purpose of the present project was to attempt to address those kinds of concerns.

CHAPTER 2

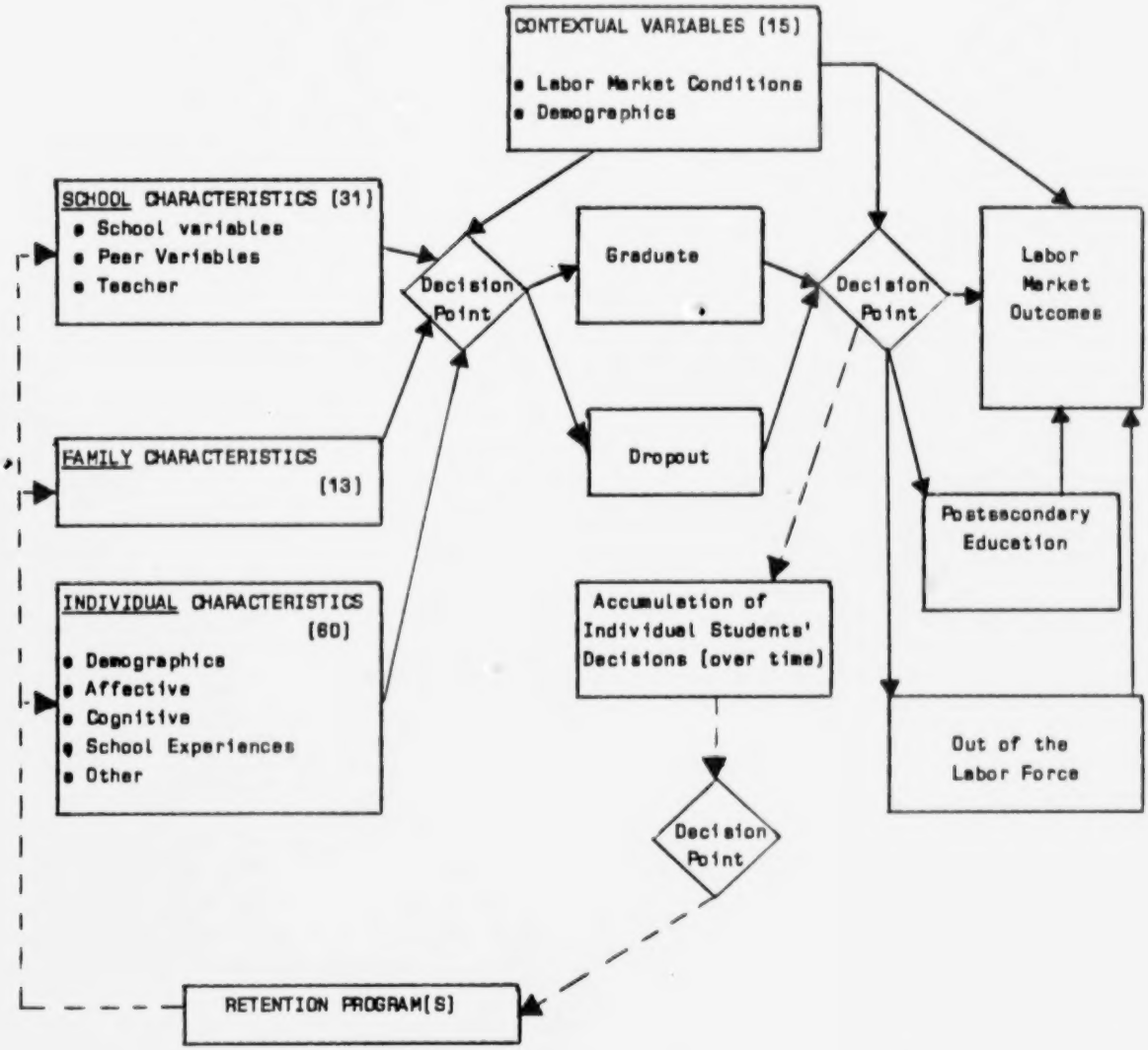
RESEARCH RESULTS

Overview--Research Approach

In an effort to address the basic concerns raised in the previous section, two distinct research strategies were used. The first strategy involved conducting analyses of data available from a nationally representative sample of students and schools that were originally surveyed in 1980 when the students were sophomores and were resurveyed two years later. This database was collected as part of the High School and Beyond (HS&B) Project, a longitudinal study sponsored by the National Center for Educational Statistics. The second strategy involved contacting a sample of nine exemplary dropout prevention programs and securing descriptive data from them regarding their orientation, organization, and operations.

Under the first of these strategies an initial analysis of the HS&B database was conducted. That analysis focused upon addressing the following concern: What alternative configurations or types of vocational experiences appear to be most closely related to individual students' completion of high school? The basic conceptual model underlying that analysis, which was described in detail by Mertens, Seitz, and Cox (1982), is summarized in figure 1. Using that model as a starting point, project staff applied the basic procedural strategy suggested by Mertens, et al. That is, they--

- identified a total of 312 variables in the HS&B database related to the different elements (i.e., Contextual Variables, School Characteristics, Family Characteristics, and Individual Characteristics) noted in figure 1;
- reduced the numbers of variables within elements (see the note on figure 1) to a more manageable size (by conducting factor analyses of the respective subsets of variables and then selecting one of the most heavily weighted items on each resulting factor);
- used the reduced set of variables (via a statistical procedure known as a two-group discriminant analysis) to identify students who completed high school, but had a high probability of dropping out and could



NOTE: The numbers in parentheses (which total 118) represent the reduced numbers of variables per element that were employed in the discriminant function analysis

Figure 1. Model depicting factors influencing high school completion and labor market outcomes as well as the factors impacted upon by dropout retention programs.

be subsequently compared with those students who actually dropped out; and

- identified alternative sets or configurations of vocational experiences in high school that discriminated between the two groups of students indicated above.

The second question addressed was: What alternative vocational experiences offered by different high schools are most closely related to reduced dropout rates across those schools? The approach used also involved the HS&B data and was similar to the one described above. The conceptual model that served to orient this effort was also based upon the work of Mertens, Seitz, and Cox (1982) and is shown in figure 2. The specific procedures used were as follows:

- Summarized the key variables noted in figure 1 (for Individual Characteristics and Family Characteristics) across schools in order to generate school-level estimates.

- Identified other school-related variables, both vocational and nonvocational (e.g., types and numbers of vocational program offerings).

- Related the preceding sets of variables to school dropout rates via a linear regression model.

The result sought using these procedures was to determine which characteristics of schools' vocational offerings or programming were most closely related to their dropout rates.

The second procedural strategy, which involved contacting a sample of exemplary dropout prevention programs and securing descriptive data from them via telephone interviews, focused upon the following question: What vocationally related features or characteristics of exemplary dropout prevention programs appear to be most effective in enhancing the completion rates of the potential dropouts they serve? Under this strategy, descriptive information was obtained in each of the following areas: location, background data regarding program organization, major program emphases/operations, available evaluation data, and recommendations regarding the applicability of the program in other locations/settings. This information was then reviewed and evaluated in an effort to discern additional ways in which experiences in vocational education can help keep dropout-prone students in school and to augment the findings obtained via the HS&B data.

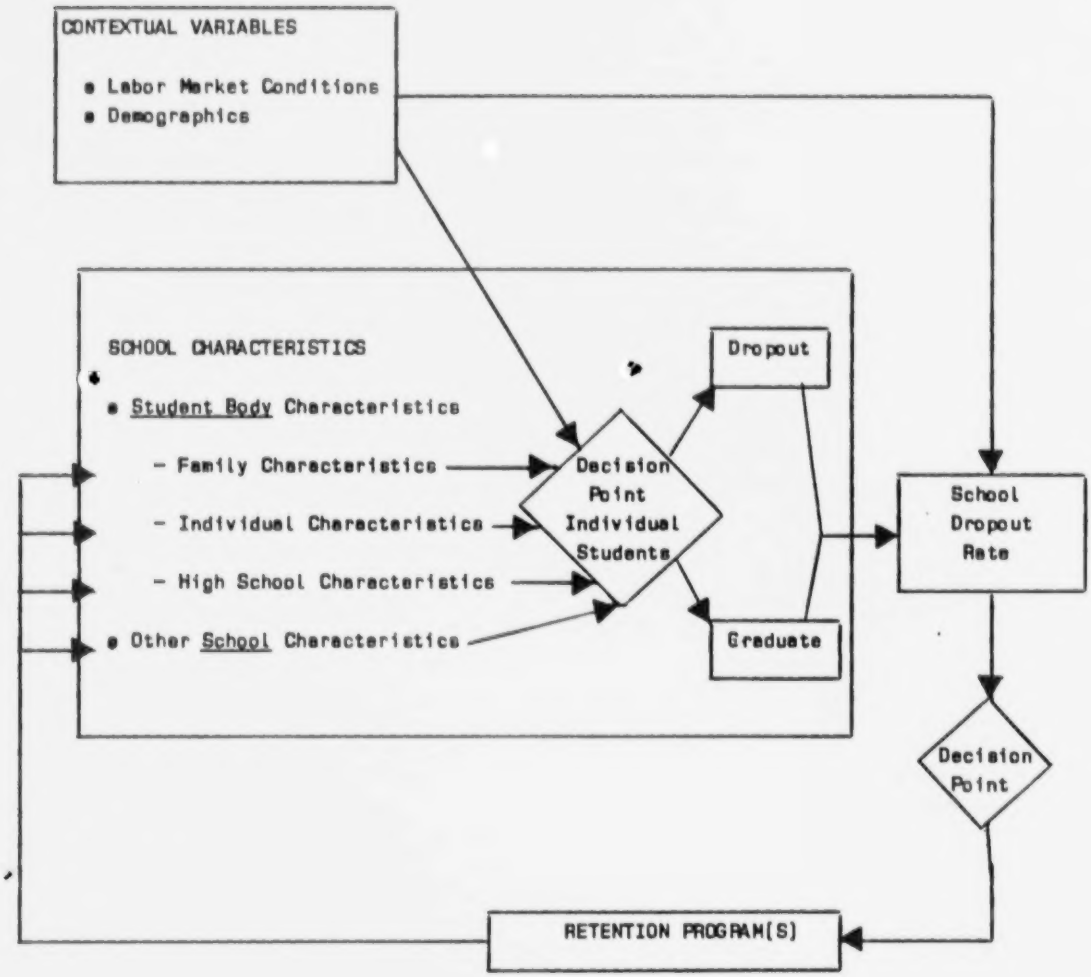


Figure 2. Model depicting factors influencing school dropout rate as well as the factors impacted upon by dropout retention programs.

The results obtained using these different strategies are summarized in the sections that follow.

Vocational Experiences Most Closely Related to Reductions in Individual Students' Decisions to Drop Out

As previously indicated, the strategy used to evaluate what vocational experiences are most related to individual students' decisions to drop out involved (1) identifying two groups of students who were quite similar (i.e., had a high propensity toward dropping out) except that the students in one group actually left school (in the 10th, 11th, or 12th grade), while the students in the second group completed high school, and (2) comparing the two groups in terms of their experiences in high school (especially their vocationally related experiences). To do this, a *discriminant function was developed, based upon the 119 variables identified during the earlier stages of the study (see figure 1). Then, a comprehensive assessment of differences among the two groups of students identified using the discriminant function was conducted. The intent of this assessment was to demonstrate empirically the "similarity" of the two groups. Finally, various comparisons were made between the two groups of students in terms of their vocationally related high school experiences.

The discriminant function that was generated took the form shown in table 3. In an ideal case the summary statistics observed for that function (see the bottom of table 3) would have assumed the values shown in table 4. Furthermore, in such an ideal case, the resulting classification for the sample would have been 100 percent, with each group being classified equally well.

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*For the less statistically oriented reader, discriminant analysis is a statistical procedure for using a set of descriptive variables (characteristics or properties of people or objects) to classify cases (people or objects) into groups. For example, a psychologist might wish to classify patients' (people) into one of two groups, neurotic or psychotic, based upon 12 of their scores on the Minnesota Multiphasic Personality Inventory (MMPI). The application of discriminant analysis to this kind of problem would result in a linear combination of the patients' 12 MMPI scores (descriptive variables), which is called a disciminant function and can be used for classifying cases into one or the other of the two groups. If certain assumptions about the data are met, the discriminant function obtained is "optimal" in that it provides a classification rule that minimizes the numbers of errors made in classifying patients (cases) into the two groups.

TABLE 3

DISCRIMINANT FUNCTION USED TO IDENTIFY STUDENTS WHO COMPLETED HIGH SCHOOL BUT HAD A HIGH PROPENSITY TOWARD DROPPING OUT

Variable ID No.	Variable Description	Discriminant Function Coefficients	
		Unstandardized	Standardized
MWAGEBO	Average hourly wage in manufacturing (1980)	-.039	-.059
WSCUSOTH	Region—West-South Central vs. other	-.141	-.043
ESCVSOTH	Region—East-South Central vs. other	-.152	-.035
CUNEMR80	Community unemployment rate—1980	-.010	-.026
SAVSOTH	Region—South Atlantic vs. other	-.037	-.013
SB014	Percent of students who dropout (1980)	-.009	-.077
SB056B	Percent of students who cut classes daily	-.025	-.019
SB017BY	Percent 10th grade in the academic program	-.001	-.015
SCHRULES	School rules enforced	-.009	-.009
SB0093S	Percent Hispanic students in school	-.000	-.003
BB046B	Father monitors school work	-.149	-.119
BYSES	Family SES	-.145	-.106
NREVSOTH	No religion vs. other	-.330	-.073
OCHVSOTH	"Other" Christian vs. other religions	-.170	-.040
OTHREL	Other relatives live in home vs. none	-.045	-.014
BB050B	Discussed post-high school plans with mother	-.015	-.007
YB049B	Mother helped with high school planning	-.007	-.005
YB003	Graduation plans?	1.838	.486
BB084	Age—over 16 vs. 16 and under	-1.822	-.344
YB011	Number of times moved since 5th grade	-.238	-.216
INTROV	Introverted vs. outgoing	-.080	-.175
BB115	Plan to go to college	.106	.160
BB017	Late to school?	-.108	-.127
BYTEST	Composite test score (1980)	.014	.121
ATTSCH	Attitude toward school	.118	.119
BLVSOTH	Ethnicity—black vs. other	.378	.112
BB050	Looking for work last week?	-.259	-.108
CONSTASK	Skill doing selected consumer tasks	-.081	-.100
ATHPART	Degree of participation in athletic activities	.177	.087
YB012	Attended vs. did not attend kindergarten	.254	.083
BB061A	Been in serious trouble with the law	-.427	-.081
YB006A	Number of math courses completed	.093	.074
BB105C	Number of black students in 9th-grade class	-.062	-.055
BBFAMILY	Family orientation	.071	.044
BB011B	Taken remedial math course?	.067	.031
BB088	Have a limiting physical condition?	-.104	-.026
	CONSTANT	-5.312	

Summary Statistics:	(1) Eigenvalue	(2) Canonical Correlation	(3) Wilks' Lambda	(4) Chi-square value for Lambda	Significance of Chi-square
	.174	.385	.851	2482.8	p <.0000

NOTE: The variables in this table are organized in terms of the key elements identified in figure 1 (i.e., Contextual Variables, School Characteristics, Family Characteristics, and Individual Characteristics). In addition, dropouts were assigned to group #1 while completers were assigned to group #2.

TABLE 4

DESIRED SUMMARY STATISTICS

Statistic	Optimum Value
1. Eigenvalue	1.00
2. Canonical Correlation	1.00
3. Wilks' Lambda	0.00
4. Chi-square Value for Lambda and . . .	(very large)
significance of Chi-square	p<.0000

A review of the actual results contained in table 3 suggests the following:

- The overall effectiveness of the discriminant function is not exceptionally "good" as indicated by the eigenvalue of .174, even though the resultant (overall) classification rate observed, when this function is used to classify the HS&B sample, is 84 percent.

- Of the 36 variables that entered the discriminant function, the five that are the most "important," based upon the standardized coefficients, are as follows:

  --Graduation plans (YB003)
  --Age over 16 vs. 16 and under (BB084)
  --Times moved since 5th grade (YB011)
  --Introverted vs. outgoing (INTROV)
  --Plan to go to college (BB115)

  (Furthermore, when these five variables are entered into a discriminant function by themselves, the resulting classification rate, after controlling for school and locational effects, is 83 percent, which is quite similar to that observed for the full discriminant function presented in table 3.)

- Given the complex nature of the decision to "drop out," care needs to be exercised in routinely applying too simplistic a rule (e.g., a rule defined by too few variables) to classify students, since the resulting, overall classification rate may become unacceptably low, i.e., at a 50 percent or "chance"

level. (Examples of the classification rates obtained using just socioeconomic status (SES), achievement test scores, school dropout rates, ethnicity--black vs. others, and participation in remedial math are shown in table 5. In those examples, although the classification rates for dropouts are better than they were for the "full" discriminant function shown in table 3, the overall classification rates are closer to 50 percent. As a result, when such classification rules are used, too many completers are classified as dropouts. Consequently, if limited resources are available for addressing the dropout problem, those resources will need to be dispersed over a larger group, which contains a disproportionately larger number of completers.

The results of the various comparisons conducted in order to assess the similarity between the two groups of students--dropouts and completers with a high propensity toward dropping out--are summarized in table 6. (Note that in table 6 the designated groups are also contrasted against the group of completers with a low propensity toward dropping out.) The indicated results suggest the following:

TABLE 5

CLASSIFICATION RATES WHEN SINGLE VARIABLES ARE USED TO CLASSIFY STUDENTS

Variables Used to Classify Students	Classification Rates Overall (Both Groups)	Dropouts
· All variables noted in table 3	84%	61%*
· Family SES and school/contextual	59%	68%
· Achievement test and school/contextual	57%	72%
· School dropout rate and school/contextual	57%	62%
· Ethnicity (black vs. other) and school/contextual	59%	58%
· Participation in remedial math and school/contextual	57%	66%

NOTE: *The relative inability to correctly classify dropouts in one of the prime contributors to the low eigenvalue reported in table 3.

TABLE 6

COMPARISONS BETWEEN DROPOUTS AND COMPLETERS WITH HIGH DROPOUT POTENTIAL ON THE VARIABLES USED TO DEFINE THE "FULL DISCRIMINANT FUNCTION"

Variables			Group Means:			
ID No.	Description	Observed or Approximate F-Value	(A) Dropout	(B) Completer-High Prob Dropout	(C) Completer-Low Prob Dropout	Conclusion
MWAGE80	Average hourly wage in manufacturing—1980	33.15*	8.107	8.163	8.407	A =B<C
WSCUSOTH	Region—West-South Central vs. other	29.85*	1.147	1.148	1.097	A =B<C
ESCVSOTH	Region—East-South Central vs. other	20.82*	1.080	1.083	1.050	A =B>C
CUNEMR80	Community unemployment rate—1980	9.20*	7.701	7.643	7.435	A =B>C
SAVSOTH	Region—South Atlantic vs. other	16.65*	1.183	1.187	1.142	A =B>C
SB014	Percent of students who dropout (1980)	230.99*	11.49	11.65	7.71	A =B>C
SB056B	Percent of students who cut classes-daily	66.31*	2.611	2.600	2.410	A =B>C
SB017BY	Percent 10th grade in the academic program	122.38*	38.32	38.58	48.38	A =B<C
SCHRULES	School rules enforced	13.81*	11.01	10.98	10.88	A =B>C
SB0093S	Percent Hispanic students in school	35.85*	12.52	12.50	8.82	A =B>C
BB046B	Father monitors school work	377.75*	2.162	2.1322	2.604	A =B<C
BYSES	Family SES	553.04*	-.419	-.404	0.999	A =B<C
NREVSOTH	No religion vs. other	134.89*	1.109	1.120	1.039	A =B>C
OCHVSOTH	"Other" Christian vs. other religions	13.90*	1.081	1.078	1.053	A =B>C
OTHREL	Other relatives live in home vs. none	39.78*	1.144	1.153	1.092	A =B>C
BB050B	Discussed post-high school plans with mother	85.31*	2.747	2.740	2.887	A =B<C
YB049B	Mother helped with high school planning	155.80*	2.134	2.106	2.353	A =B<C
YB003	Graduation plans?	1565.34*	3.669	3.719	4.000	A<B<C
BB084	Age—over 16 vs. 16 and under	1886.70*	1.188	1.246	1.000	B>A>C
YB011	Number of times moved since 5th grade	544.41*	1.967	2.067	1.411	B>A>C
INTROV	Introverted vs. outgoing	106.28*	8.588	8.424	7.801	A=B>C
BB115	Plan to go to college	1126.16*	2.600	2.531	4.019	A =B<C
BB017	Late to school?	383.06*	2.452	2.521	1.817	A =B>C
BYTEST	Composite test score (1980)	819.93*	45.07	45.12	52.82	A =B<C
ATTSCH	Attitude toward school	651.70*	4.383	4.370	5.134	A =B<C
BLVSOTH	Ethnicity—black vs. other	0.44ns	1.102	1.102	1.096	A=B=C
BB020	Looking for work last week?	170.77*	1.383	1.380	1.197	A =B>C
CONSTASK	Skill doing selected consumer tasks	13.18*	10.37	10.27	10.14	A =B>C
ATHPART	Degree of participation in athletic activities	155.28*	1.412	1.416	1.600	A =B<C
YB012	Attended vs. did not attend kindergarten	202.07*	1.778	1.754	1.901	A =B<C
BB061A	Been in serious trouble with the law	346.43*	1.108	1.133	1.020	B>A>C
YB006A	Number of math courses completed	121.33*	2.830	2.820	3.090	A =B<C
BB105C	Number of black students in 8th-grade class	67.00*	2.174	2.207	1.987	A =B>C
BBFAMILY	Family orientation	137.69*	-.131	-.153	0.075	A =B>C
BB011B	Taken remedial math course?	133.00*	1.547	1.552	1.711	A =B<C
BB088	Have a limiting physical condition?	78.54*	1.114	1.128	1.057	A =B>C
ALL	(All Variables)	244.28*	-	-	-	-

NOTE: *Significant at α = .0001 level; NS = not significant

- Dropouts differed from potential dropouts on only 4 of the 36 variables that defined the full discriminant function, which suggests that they are quite similar. (Furthermore, on three of the four variables where differences were observed, the comparison group exhibited mean values that were more suggestive of dropping out than the mean values observed for the actual dropouts.)

- The two groups, dropouts and potential dropouts, both differed significantly from the group of students who completed high school and had a low propensity toward dropping out. (Significant differences were noted on all 36 variables included in the full discriminant function).

The next set of analyses conducted involved comparisons between the dropouts and potential dropouts (i.e., the "comparison group" or completers with a high probability of dropping out) on a number of variables that served to define operationally their vocationally related experiences while in high school. The results of those comparisons, which are summarized in the first segment of the table contained in appendix A, suggest the following:

- Dropouts earned significantly fewer vocational credits than students in the comparison group (completers earned 3.5, 12th-grade dropouts 2.0, 11th-grade dropouts 1.4, and 10th-grade dropouts .9).

- Dropouts earned significantly fewer total credits than students in the comparison group (completers earned 19.5, 12th-grade dropouts 12.0, 11th-grade dropouts 9.7, and 10th-grade dropouts 7.4).

- The dropouts enrolled in fewer courses (both vocational and nonvocational) than did students in the comparison group, and they received significantly lower grades in those courses.

- Dropouts earned credits in fewer vocational service areas than did students in the comparison group, which suggests that they did not explore a full range of vocational offerings.

- The ratio of consumer/homemaker, industrial arts, and other "exploratory" vocational credits (i.e., credits in courses designed to provide an overview or general introduction to a vocational area as contrasted with job-specific training [NCES 1984]) earned to total credits earned was significantly

greater for dropouts than for students in the comparison group.

- Significantly fewer dropouts than comparison students had a vocational specialty, i.e., a vocational service area in which they earned over 60 percent of their vocational credits.

- Dropouts tended to earn more work-study credits than the comparison students, especially early in high school, and those credits tended to make up a significantly larger part of the dropouts' programs than they did for the programs of students in the comparison group.

- As a general rule, the dropouts completed as many career education credits as did the students in the comparison group (although few students in either group appeared to be exposed to such courses to any great extent).

- Significantly fewer dropouts reported being in the vocational curriculum while in high school than did members of the comparison group.

- Significantly fewer 10th-grade dropouts reported talking to their parents or friends/relatives regarding their school plans than did members of the comparison group.

- Significantly more dropouts reported being assigned to their school programs (vs. choosing them themselves) than did students in the comparison group.

- Fewer dropouts reported changing curricula during high school than did students in the comparison group.

- The dropouts reported in 10th-grade that they were working significantly more hours per week and earning more per hour than did the students in the comparison group. Also, a significantly larger number of dropouts reported that they were employed by CETA or some other government organization than by private industry/business.

The information presented in the second part of the table contained in appendix A deals with comparisons involving other school-related variables, which are not vocationally oriented (e.g., got married or number of math credits earned). Those variables provide an even broader picture of how the dropouts' experiences during high school differed from the experiences of

the comparison students. In many respects, those results reinforce/confirm as well as augment the conclusions listed above. For example, they show that dropouts earned fewer credits in basic, academic areas, reported that their grades were lower, and reported being married and participating in special programs for pregnant girls.

Features or Characteristics of the Experiences Offered by High Schools that Are Most Closely Related to Dropout Rate

The basic strategy employed in order to address this concern involved the use of linear regression to identify pertinent relationships between selected, school-related variables and *school dropout rates as observed in the HS&B database. The specific approach used involved computing partial correlations between school dropout rates and selected characteristics of the schools' vocational offerings/programming, while adjusting for the efforts of various Contextual Variables, Student Body Characteristics, and Other School Characteristics (as noted in figure 2). This approach afforded an opportunity to look at the high school characteristics most closely related to school-level dropout rates, over and above the cumulative impact of the dropout decisions for individual students within those schools. The resulting partial correlations are summarized in the table contained in appendix B.

The information shown in the first portion of the summary table in appendix B indicates that high school dropout rates are positively related (over and above the relationships attributable to the individual dropout decisions of students in those schools) to such factors as these:

- The percentage of 12th-grade students involved in Trade and Industry (T&I) programs
- Auto mechanics taught in the school
- Availability of a career information center
- Work experience programs (off campus as well as on campus) and credit for work experience
- Participation by the school in VEA-1963 sponsored co-op and work-study programs

*For the purposes of this study, school dropout rates were defined by the estimates obtained via the Follow-up School Questionnaire used as part of the HS&B Study.

The information summarized in the second part of the table contained in appendix B indicates that high school dropout rates are also related to such factors as:

- The requirement by the school that students pass a minimum competency test to graduate
- The existence of time lags with regard to the recognition of student absences (both excused and unexcused)
- The degree to which such problems as absenteeism and cutting class exist
- The lack of parent interest in student progress and the school
- The incidence of robbery, theft, drug/alcohol abuse, rape, brandishing of weapons, and verbal abuse of teachers within the school

Although these school-level analyses have yielded results that help to identify some of the variables related to high school-related dropout rates, they provide relatively few insights regarding the ways in which vocational education, per se, could be effective in reducing those rates. Furthermore, in most programmatic dropout prevention strategies, vocational education is only one component of a broader effort, which is the topic addressed in the following section.

A Look at the Alternative Vocational Experiences Employed in Selected Exemplary Dropout Prevention Programs

The strategy used to assess what vocationally related features of exemplary dropout prevention programs appear to be the most effective in enhancing student retention involved contacting a sample of nine exemplary dropout prevention programs and securing descriptive information from them regarding their organization and operations. During the selection process an effort was made to identify a diverse sample of programs from different areas of the country, which represented different approaches to addressing the dropout prevention problem. The nine programs selected--

- came from the Northwest, West, South Central, Southeast, Midwest, Mid-Atlantic, and New England regions;
- represented urban, suburban, rural, and smaller city school districts;

- focused upon addressing the needs of a variety of special needs/high risk students (e.g., bilingual, minority, migrant, handicapped, pregnant teenage students);

- involved a number of programmatic strategies/ activities (e.g., alternative high school, extended-day school; vocational support services-special counseling, and so on, local school-PIC cooperation, summer programs); and

- involved single schools (sites), multiple schools (districtwide), single states, and multiple states.

Descriptive profiles for the selected exemplary dropout prevention programs are presented in appendix C. The information contained in those profiles, along with the other information secured from the cooperating sites, suggests that they have the following characteristics:

- Holistic and multifaceted in their approach--the most prevalent strategies used were a combination of parental involvement, remedial basic skills instruction, and work experience/job placement, with counseling, supportive services, and in-school vocational instruction all coming in as close seconds and being used in the majority of cases.

- Typically operationalized in such a manner that about half of the total effort is directed toward addressing and resolving students' education/ remediation needs (e.g., basic skills deficiencies), about a quarter of the effort is spent on resolving their personal needs, and the remaining quarter is targeted toward their work-related needs.

- In most cases presented in contexts that differ from a "traditional school environment" (even though they may be housed in the same physical plant, e.g., via a "school within a school" context); involve special motivational strategies (e.g., tying school activities directly to the real world--workplace, daily living, parenting needs, etc., building more individualized teacher-student linkages, mentoring, special awards, and activities designed to build <u>espirit de corps</u> among affected students); and involve some degree of individualized teaching/ learning activities.

- Often focused upon dropout-prone students who are in the beginning stages of their high school careers (between the ages of 14 and 16), prior to the time

when they would "normally" become formally involved in a vocational education program.

- If a work experience component is involved, that component is intimately tied to the other program components, both logically and operationally and usually results in the establishment of what are frequently unique and closer relationships with business/industry than normally occurs in more general, work-study programs.

- Require the involvement of "special" staff/teachers who are committed to the philosophy/goals of the program; are able and willing to establish workable relationships with their students, relationships that are somewhat different and frequently require more commitment than that which is "normally" required; are flexible in their approach, both to instruction and to dealing with their students; and are able to "stay on top" of their students' needs.

CHAPTER 3

DISCUSSION/RECOMMENDATIONS

Vocational Education and Individual Dropouts

The research results summarized in tables 3 and 5 and appendix A, along with those reported in previous studies, suggest that several factors need to be addressed if vocational education is to play a more prominent role in helping to reduce the numbers of students who drop out of school each year. Included among those factors are the following:

- Prior to entry into high school and subsequent involvement in the vocational education program, a more extensive/systematic effort needs to be undertaken to identify potential dropouts. Such an effort should resemble that used to identify learning disabled, disadvantaged, and other students with special needs. Previous research shows that dropout-prone students need to be identified early enough in their school careers so some form(s) of positive action can be initiated before it is too late. This argument was clearly noted by Bachman et al., in Youth in Transition (1971), when they indicated that among the important elements in the mismatch between potential dropouts and the high school environment are individual limitations in academic ability, past scholastic failure and patterns of delinquency--problems that are not likely to be resolved in high school. Furthermore, given the requirements of the Perkins Act with regard to the notification of parents of disadvantaged, handicapped, and other special needs students a year prior to the offering of vocational education programs, the press for such efforts should be even greater.

  Currently, many school districts are planning or have programs underway that are targeted toward working with potential dropouts at the middle school and even the elementary school levels. However, many of these efforts employ undimensional decision rules based upon school-related SES, academic achievement, or attendance levels, rather than individual student characteristics to identify/classify their dropout-prone students. The results noted in tables 3 and 5 suggest that such rules may be too simplistic and result in inordinately large classification errors. Those results also suggest

that a multidimensional classification rule employing the following five variables--graduation plans, age (over 16 or 16 and under), times moved since 5th grade, introverted vs. outgoing, and plans regarding going to college--might be expected to yield a reasonably high correct classification rate for individual students.

- In addition to more systematically identifying potential dropouts prior to high school entry, it is essential that more extensive guidance and counseling services be available to them prior to their entry into high school, at the transition point into high school, and during their high school careers. Normally, their service needs in this regard are multidimensional and extensive in scope. A variety of approaches and specific activities can be used to help deliver such services. These approaches can include monitoring by teachers; hiring more counselors, particularly "vocational counselors," so as to decrease the student/counselor ratio; parent/family workshops; health screening programs; fostering school-to-school linkages through orientation programs, joint school activities, and transitional guidance services. But the actual delivery of these services to potential dropouts is the critical factor at this point, not their specific nature.

  The results summarized in appendix A suggest that the guidance needs of most dropouts, particularly program planning, are not adequately addressed either at school or at home. For example, significantly fewer 10th-grade dropouts than completers reported discussing their high school plans with their parents or "significant others" in their lives. Also, as a general rule, few dropouts (29 percent) and dropout-prone students reported talking either to a counselor or their teachers about their high school plans. This inadequacy is also reflected in the fact that few dropouts and dropout-prone students reported that they "chose" their high school programs rather than being simply "assigned" to them.

  As a general rule, we have very poor assessments of students' strengths and weaknesses. When we do have such data, we either cannot or will not follow up and place students in areas where success and self-esteem can be cultivated (Occhipinpi 1985). Such assessments are critical for individualized counseling services designed to serve both dropout-prone

youth as well as actual school leavers (Los Angeles City Schools 1974).

It is also essential that the guidance/counseling services offered, especially those offered dropouts and dropout-prone students, assign a somewhat "heightened" role to vocational education as a program alternative. Although it should not be treated as a "dumping ground," vocational education should be a more prominent part of the comprehensive set of course offerings from which students make "educated" choices. Any retentive effects associated with participation in vocational education can never be realized if dropout-prone students do not participate in those programs.

- In addition to the need for providing enhanced guidance/counseling services, the results presented in appendix A suggest that additional career exploration and related career education experiences need to be offered. The accumulation of less than .04 career education credits in high school by all students (and .05 credits by the dropouts) indicates that such experiences are not routinely provided on a very wide basis, at least at the high school level. The availability of such experiences, particularly prior to or near the transition point into high school, has potential for helping dropout-prone students more explicitly define their personal, school-related, and occupational goals/objectives.

- Once they are in high school, the research results shown in appendix A suggest that dropouts tend not to enter the "mainstream" of the vocational programs offered in their respective schools. Their involvement in those programs appears to be concentrated in "exploratory" courses, especially consumer/homemaker and industrial arts courses, and they take relatively few, if any, "occupational" courses (i.e., courses that provide specific job-related training). Furthermore, they do not appear to explore the full array of vocational offerings, nor, at the same time, do they develop a vocational specialty. Since too few dropouts appear to follow the "normal" transitional paths through their schools' vocational programs or to take advantage of the job-training aspects of these programs, mechanisms for assisting them in these regards need to be implemented. Several examples of mechanisms that might be used are:

(1) Offer "occupational" courses earlier in the students' high school careers and do not require a variety of "exploratory" prerequisites to those courses.

(2) Offer a special series of "occupational" courses or even "minicourses" after school, weekends, or during school hours via flexible course scheduling, so as to afford students opportunities to acquire the required job specific skills.

(3) Offer the "exploratory" as well as any required remedial courses at an earlier time (e.g., 8th grade) or as special courses (i.e., after school, summer, and so forth) in order to ensure that time during the high school day is devoted to taking "occupational" courses. For example, encourage community businesses and industry to work with students to give experiences and course credit on students' own time.

(4) Implement more extensive planning systems that involve more decision points where students, counselors, and teachers may discuss, modify, and adapt the students' basic program plans. This should enable the advisability of taking more "exploratory" versus "occupational" courses to be monitored and evaluated.

- The results shown in appendix A also suggest that one aspect of high school vocational programs needing review is the issue of work study. It appears that dropouts often participate in work-study activities early in their high school careers and at a level that is proportionally much greater than that of the more general student population. Frequently, such activities have minimal programmatic association with other, on-going school efforts. Although important because of the economic benefits they provide the recipients, those activities may directly or indirectly serve as inducements for quitting school. Some activities are not related directly to the on-going school program, such as those that are part of a larger dropout prevention program, (e.g., an extended school day or alternative high school program or an Experience Based Career Education program). Such activities may not positively contribute to retention and possibly should be de-emphasized. The results also suggest that school-JTPA linkages that involve work-study

activities for disadvantaged youth should be reviewed and evaluated on an individual basis.

Vocational Education as Part of Programmatic/ Schoolwide Dropout Prevention Efforts

The results observed in relation to school dropout rates and the exemplary dropout prevention programs suggest that several issues must be considered to increase the role of vocational education in reducing school-related dropout rates. Included among those issues are the following:

- The available research (e.g., The National Advisory Council on Supplementary Centers and Services 1980; Lotto 1982; Weber et al. 1982) suggests that dropout prevention programs can be effective in reducing dropout rates and ameliorating related student deficiencies. The development and implementation of such programs, however, typically require the expenditure of considerable time and fiscal resources when calculated on a per pupil basis. Therefore, if the benefits of such programs are to be maximized, it is important that the associated resources be expended on students who would become actual dropouts if no intervention were to occur. This conclusion reinforces the needs noted earlier for strengthening efforts to identify dropouts earlier in their school careers and employing more reliable decision rules as part of that identification process.

  Frequently, when setting up dropout prevention programs, school districts will employ decision rules based upon school rather than individual student characteristics (e.g., Quinones 1985). Such rules can result in relatively large errors in identifying actual dropouts. (Also, as noted earlier, the dropout decision is a complex, individual decision related to school dropout rates, but not accounted for by them.) Hence, the use of such rules may result in available program funds being spent largely on "completers with a high propensity toward dropping out" (e.g., students like those in the "comparison" group used in appendix A). These students typically make up a sizable proportion of the students in the selected schools. Therefore, in the future, emphasis needs to be placed on the development and utilization of localized, multidimensional, student-centered decision rules which are reliable dropout indicators. To be effective, the funds allocated for dropout prevention must be

spent on those for whom they are targeted. Such funds are too limited to be effective if used as compensatory program funds.

- For vocational education to have a positive impact upon dropout rates, it is essential that potential dropouts actually participate in vocational programs in a meaningful way. The results presented earlier indicate that individual dropouts tend not to enter the mainstream of vocational education. Furthermore, it appears that schools with high dropout rates do not emphasize vocational education as a curricular alternative any more than do the schools with low dropout rates. These results suggest that if positive, retention-related benefits from participating vocational education are to be realized, specific steps need to be taken to increase enrollments and participation patterns of dropout-prone students in those programs. The results of the exemplary program reviews reinforce this need. In the majority of the reviewed programs, participation in vocationally related activities was emphasized more than it was in "traditional" school settings.

  In this same regard, the information obtained from the exemplary programs and program personnel suggests that the rules governing entry into vocational education should be carefully reviewed and evaluated on an individual student basis, particularly for students deemed to be dropout-prone. For example, in some schools it is possible that students might not be allowed to enter the vocational program until they attain junior status. At the same time, they can participate in a sanctioned, yet unsupervised work-study activity that has minimal, if any, association with their broader school programs.

- Previous research as well as the results of the current effort suggest that effective dropout prevention programs have been built upon committed staffs and have used

  > a variety of integrated strategies rather than a single approach. They transfer potential dropouts from their regular schools to different kinds of environments. Most are small, with administrators concentrating resources narrowly on small populations. Programs that recorded some success offered a different experience in learning from that which students had been receiving. . . . Sharing a strong vocational emphasis, these

> programs imparted practical, often job-related, skills in school and encouraged students to apply academic learning to real life situations. As part of the vocational emphasis, they stressed learning outside of the classroom, often in connection with paid employment. Confirming research findings, these alternative programs were small, had low student-teacher ratios, and highlighted individualized instruction. They also included strong counseling components. (Kaplan 1985, p. 15)

In keeping with this perspective, the availability of vocationally related resources outside the context of such multifaceted programmatic thrusts (e.g., the availability of a career information center or auto mechanics program in a school) appears to offer somewhat limited positive benefits for reducing school dropout rates. However, when such resources are incorporated into a systematic approach to dropout prevention, they do appear to contribute to reducing dropout rates.

- Overall reductions of student absenteeism, class-cutting, and such problems as robbery, theft, and drug/alcohol abuse are also options for reducing school dropout rates. However, efforts to "control" the school environment in order to change these factors could have the reverse effect. Preoccupation with matters of control and discipline to the exclusion of matters involving instruction, positive school spirit, and so forth, is commonly correlated with high dropout rates.

- Improved parental involvement is another area that offers some potential for dropout rate reduction (Walz and Mintz 1984). As part of any such effort, parents should become better informed about vocational and other curricular offerings available to their children. To foster heightened awareness, presentations featuring employers and vocational graduates from the local area might be beneficial. In addition, parents should be shown how to provide planning and support to their children in choosing their school programs. The desired outcome is to involve parents actively in their children's schooling.

- As noted earlier, the use of work-study experiences, especially for students who are just beginning their high school careers, should be carefully reviewed and evaluated. Such experiences, when not logically

or operationally tied to students' overall education programs, are not a panacea for resolving individual students' school problems, or the dropout, discipline, attendance, motivation, or other problems found in a school or school district. These experiences should be an integral part of a broad strategy to reduce dropout rates.

Summary-Recommendations

In summary, previous research as well as the results observed via the current project, suggest the following recommendations:

Recommendations--General

- o More systematic and extensive efforts need to be undertaken to identify and work with potential dropouts prior to, at the transition point, and during their high school careers.
  - Emphasis should be placed upon the development and use of local, multidimensional, student-centered decision rules, which are reliable dropout indicators;
  - More extensive guidance and counseling services for dropout-prone students, which involve improved interest/ability assessment, program planning assistance, and vocational program awareness activities, should be initiated;
  - Specific educational plans similar to the IEPs required for handicapped students should be developed for dropout-prone students; and
  - Some type of follow-through and early-warning system should be initiated for dropout-prone students to ensure that they are progressing toward their planned goals and are not "lost between the cracks."
- o Programmatic activities designed to enhance school "climate" and reduce absenteeism, class-cutting, theft, and drug/alcohol abuse should be developed and initiated or given added emphasis in schools with higher dropout rates.
- o Systematic awareness and education activities should be developed and received greater emphasis to

enhance the overall involvement, specific program planning, and supportive assistance of parents of dropout-prone students.

Recommendations--Vocationally Oriented

- More extensive career exploration and related career education experiences should be provided for dropout-prone students, particularly prior to and at the transition point into high school, in order to enhance their awareness of the full range of vocational alternatives available as well as to help them crystallize their interests and goals.

- Mechanisms should be established for improving dropout-prone students' transitions through the vocational program, so they avail themselves of the occupational (job-specific skill training) courses, rather than just the exploratory types of courses.

- Careful reviews and evaluations on a student-by-student basis should be made of sanctioned work-study activities, particularly those available to students early in their high school careers. Their purpose would be to ensure that those activities involve specified objectives, programmatic experiences, clear linkages with the student's overall school program, built-in communications linkages between the employer and responsible school officials, and specific evaluation standards.

- Review of existing rules governing entry into vocational programs, particularly for dropout-prone students, needs to be undertaken in order to ensure that such students are not being kept out of those programs, while being allowed or even encouraged to participate in work-study programs that have few, if any, logical or operational ties with the students' overall school plans/goals.

- Programmatic activities at the school level should be undertaken to heighten dropout-prone students' awareness and, hopefully, their involvement in the vocational program and in related vocational activities. These changes will enhance the linkages between all those activities, much as is done in exemplary dropout prevention programs.

APPENDIX A

SUMMARY OF THE COMPARATIVE ANALYSES OF THE HIGH SCHOOL EXPERIENCES OF DROPOUTS AND COMPLETERS WITH A HIGH PROBABILITY OF DROPPING OUT

TABLE A-1

SIGNIFICANCE OF COMPARATIVE ANALYSES**
FOR SELECTED DEPENDENT VARIABLES ACROSS GRADES LEVELS

Dependent Variables	Comparison Groups	9th Grade Only	9th - 10th Grades	9th - 11th Grades	9th - 12th Grades
A. VOCATIONALLY RELATED EXPERIENCES					
o Total Vocational Credits Earned	10th gr. Dropouts-Completers	ns	*[-]		
	11th gr. Dropouts-Completers	*[-]	*[-]	*[-]	
	12th gr. Dropouts-Completers	ns	ns	*[-]	*[-]
o Total Credits Earned	10th gr. Dropouts-Completers	*[-]	*[-]		
	11th gr. Dropouts-Completers	*[-]	*[-]	*[-]	
	12th gr. Dropouts-Completers	*[-]	*[-]	*[-]	*[-]
o Number of Vocational Specialty Areas in Which Credits Have Been Earned	10th gr. Dropouts-Complete	ns	*[-]		
	11th gr. Dropouts-Complete	ns	*[-]	*[-]	
	12th gr. Dropouts-Completers	ns	ns	*[-]	*[-]
o Ratio--"Exploratory" Vocational Credits to Total Credits Earned	10th gr. Dropouts-Completers	ns	*[+]		
	11th gr. Dropouts-Completers	ns	*[+]	*[+]	
	12th gr. Dropouts-Completers	*[+]	*[+]	*[+]	*[+]
o Number of Vocational Courses in Which Enrolled	10th gr. Dropouts-Completers	ns	ns		
	11th gr. Dropouts-Completers	ns	ns	*[-]	
	12th gr. Dropouts-Completers	ns	ns	ns	*[-]
o Number of Non-vocational Courses in Which Enrolled	10th gr. Dropouts-Completers	ns	*[-]		
	11th gr. Dropouts-Completers	ns	ns	*[-]	
	12th gr. Dropouts-Completers	*[-]	*[-]	*[-]	*[-]
o Grades in Vocational Courses (Os assigned if no courses taken)	10th gr. Dropouts-Completers	*[-]	*[-]		
	11th gr. Dropouts-Completers	*[-]	*[-]	*[-]	
	12th gr. Dropouts-Completers	*[-]	*[-]	*[-]	*[-]
o Grades in Non-vocational Courses (Os assigned if no courses taken)	10th gr. Dropouts-Completers	*[-]	*[-]		
	11th gr. Dropouts-Completers	*[-]	*[-]	*[-]	
	12th gr. Dropouts-Completers	*[-]	*[-]	*[-]	*[-]
o Vocational Specialty vs. No Vocational Specialty	10th gr. Dropouts-Completers	ns	*[-]		
	11th gr. Dropouts-Completers	ns	ns	*[-]	
	12th gr. Dropouts-Completers	ns	ns	*[-]	*[-]

**In this table ns means a comparison is not significant; *[+] means a comparison is significant and the dropouts "scored" higher than the comparison students; and *[-] means a comparison is significant and the dropouts "scored" lower than the comparison students.

TABLE A-1--Continued

Dependent Variables	Comparison Groups	9th Grade Only	9th - 10th Grades	9th - 11th Grades	9th - 12th Grades
o Number of Consumer and Homemaker Credits Earned	10th gr. Dropouts-Completers	*(+)	*(+)		
	11th gr. Dropouts-Completers	*(+)	*(+)	*(+)	
	12th gr. Dropouts-Completers	*(+)	*(+)	*(+)	ns
o Number of Industrial Arts Credits Earned	10th gr. Dropouts-Completers	ns	ns		
	11th gr. Dropouts-Completers	*(+)	*(+)	ns	
	12th gr. Dropouts-Completers	*(+)	ns	ns	*(+)
o Ratio--Consumer and Homemaker Credits to Total Credits Earned	10th gr. Dropouts-Completers	*(+)	*(+)		
	11th gr. Dropouts-Completers	*(+)	*(+)	*(+)	
	12th gr. Dropouts-Completers	*(+)	*(+)	*(+)	*(+)
o Ratio--Industrial Arts Credits to Total Credits Earned	10th gr. Dropouts-Completers	ns	*(+)		
	11th gr. Dropouts-Completers	*(+)	*(+)	*(+)	
	12th gr. Dropouts-Completers	*(+)	*(+)	*(+)	*(+)
o Work-Study Credits Earned	10th gr. Dropouts-Completers	ns	*(+)		
	11th gr. Dropouts-Completers	ns	ns	ns	
	12th gr. Dropouts-Completers	*(+)	*(+)	*(+)	ns
o Co-op Credits Earned	10th gr. Dropouts-Completers	ns	ns		
	11th gr. Dropouts-Completers	ns	ns	ns	
	12th gr. Dropouts-Completers	ns	ns	ns	*(-)
o Ratio--Work-Study Credits to Total Credits Earned	10th gr. Dropouts-Completers	ns	*(+)		
	11th gr. Dropouts-Completers	ns	*(+)	ns	
	12th gr. Dropouts-Completers	*(+)	*(+)	*(+)	*(+)
o Ratio--Co-op Credits to Total Credits Earned	10th gr. Dropouts-Completers	ns	*(+)		
	11th gr. Dropouts-Completers	ns	*(+)	ns	
	12th gr. Dropouts-Completers	ns	ns	ns	ns
o Number of Career Education Credits Earned	10th gr. Dropouts-Completers	ns	ns		
	11th gr. Dropouts-Completers	ns	ns	ns	
	12th gr. Dropouts-Completers	ns	ns	*(+)	ns
o Curriculum Designation (Self-report) --Vocational vs. Other	10th gr. Dropouts-Completers		ns		*(-)
	11th gr. Dropouts-Completers		ns		*(-)
	12th gr. Dropouts-Completers		ns		*(-)
o Assigned to HS Program vs. Not (1980 Survey-YB002; 1982 Survey-FD10A)	10th gr. Dropouts-Completers		ns		*(-)
	11th gr. Dropouts-Completers		ns		*(-)
	12th gr. Dropouts-Completers		ns		*(-)
o Changed (Self-reported) Curriculum (1980-1982 Survey)	10th gr. Dropouts-Completers				*(-)
	11th gr. Dropouts-Completers				*(-)
	12th gr. Dropouts-Completers				ns
o Hours Worked per Week (1980 Survey-BB022)	10th gr. Dropouts-Completers		*(+)		
	11th gr. Dropouts-Completers		*(+)		
	12th gr. Dropouts-Completers		*(+)		

TABLE A-1--Continued

Dependent Variables	Comparison Groups	9th Grade Only	9th - 10th Grades	9th - 11th Grades	9th - 12th Grades
o Earnings per Hour at Work (1980 Survey-BB023)	10th gr. Dropouts-Completers		*(+)		
	11th gr. Dropouts-Completers		*(+)		
	12th gr. Dropouts-Completers		ns		
o Employer--CETA or Other Gov't vs. Other (1980 Survey--BB025)	10th gr. Dropouts-Completers		*(+)		
	11th gr. Dropouts-Completers		*(+)		
	12th gr. Dropouts-Completers		*(+)		
o Talked to Father re: School Planning (1980 Survey-49A)	10th gr. Dropouts-Completers		*(-)		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Talked to Mother re: School Planning (1980 Survey-49B)	10th gr. Dropouts-Completers		*(-)		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		*(+)		
o Talked to School Guidance Counselor re: School Planning (1980 Survey-49C)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Talked to Teachers re: School Planning (1980 Survey-49D)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Talked to Friends/ Relatives re: School Planning (1980 Survey-49E)	10th gr. Dropouts-Completers		*(-)		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Time Spent on Extra-curricular Vocational Activities	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Courses Completed--Business & Office (1980 Survey-YB006H)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Courses Completed--Trade & Industry (1980 Survey-YB006I)	10th gr. Dropouts-Completers		*(-)		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Courses Completed--Technical (1980 Survey-YB006J)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		*(+)		
	12th gr. Dropouts-Completers		ns		
o Courses Completed--Other Vocational (1980 Survey-YB006K)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Participated in Co-op Program (1980 Survey-BB014A)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		

TABLE A-1--Continued

Dependent Variables	Comparison Groups	8th Grade Only	9th - 10th Grades	9th - 11th Grades	9th - 12th Grades
o Participated in Work-Study Program (1980 Survey-BB014B)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		*(+)		
	12th gr. Dropouts-Completers		ns		
o Courses Taken/Planned 11 & 12 gr. Business/ Sales (1980 Survey-YB009H)	10th gr. Dropouts-Completers		*(-)		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Courses Taken/Planned 11 & 12 gr. Trade & Industry (1980 Survey-YB009K)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Courses Taken/Planned 11 & 12 gr. Technical (1980 Survey-YB009J)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Courses Taken/Planned 11 & 12 gr. Other Vocational (1980 Survey-YB009K)	10th gr. Dropouts-Completers		*(-)		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		*(-)		
o Courses Taken/Planned Agriculture (1980 Survey-BB006A)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Courses Taken/Planned Auto Mechanics (1980 Survey-BB006B)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Courses Taken/Planned Commercial Arts (1980 Survey-BB006C)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Courses Taken/Planned Computer Programming (1980 Survey-BB006D)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Courses Taken/Planned Carpentry (1980 Survey-BB006E1)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		*(-)		
o Courses Taken/Planned Electrical (1980 Survey-BB006E2)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Courses Taken/Planned Masonry (1980 Survey BB006E3)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		*(+)		
	12th gr. Dropouts-Completers		ns		

TABLE A-1--Continued

Dependent Variables	Comparison Groups	9th Grade Only	9th - 10th Grades	9th - 11th Grades	9th - 12th Grades
o Courses Taken/Planned Plumbing (1980 Survey-BB006E4)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Courses Taken/Planned Cosmetology (1980 Survey-BB006F)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		*(+)		
	12th gr. Dropouts-Completers		*(+)		
o Courses Taken/Planned Drafting (1980 Survey-BB006G)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Courses Taken/Planned Electronics (1980 Survey-BB006H)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Courses Taken/Planned Home Economics (1980 Survey-BB006I)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		*(+)		
o Courses Taken/Planned Machine Shop (1980 Survey-BB006J)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Courses Taken/Planned Medical Assisting (1980 Survey-BB006K)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		*(+)		
o Courses Taken/Planned Practical Nursing (1980 Survey-BB006L)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		*(+)		
o Courses Taken/Planned Quantity Food Occupations (1980 Survey-BB006M)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Courses Taken/Planned Sales or Merchandising (1980 Survey-BB006N)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Courses Taken/Planned Secretarial, Typing (1980 Survey-BB006O)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Courses Taken/Planned Welding (1980 Survey BB006P)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		

TABLE A-1--Continued

Dependent Variables	Comparison Groups	9th Grade Only	9th - 10th Grades	9th - 11th Grades	9th - 12th Grades
B. NONVOCATIONALLY ORIENTED EXPERIENCES					
o Number of English Credits Earned	10th gr. Dropouts-Completers				*[-]
	11th gr. Dropouts-Completers				*[-]
	12th gr. Dropouts-Completers				*[-]
o Number of Math Credits Earned	10th gr. Dropouts-Completers				*[-]
	11th gr. Dropouts-Completers				*[-]
	12th gr. Dropouts-Completers				*[-]
o Number of Science Credits Earned	10th gr. Dropouts-Completers				*[-]
	11th gr. Dropouts-Completers				*[-]
	12th gr. Dropouts-Completers				*[-]
o Number of Social Studies Credits Earned	10th gr. Dropouts-Completers				*[-]
	11th gr. Dropouts-Completers				*[-]
	12th gr. Dropouts-Completers				*[-]
o Number of Foreign Language Credits Earned	10th gr. Dropouts-Completers				*[-]
	11th gr. Dropouts-Completers				*[-]
	12th gr. Dropouts-Completers				*[-]
o Grades (Self-report) So Far in High School (1980 Survey-BB007)	10th gr. Dropouts-Completers		*[-]		
	11th gr. Dropouts-Completers		*[-]		
	12th gr. Dropouts-Completers		*[-]		
o Time Spent on Homework per Week (1980 Survey-BB015)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Was a Grade Ever Repeated before HS (1982 Survey-FD14)	10th gr. Dropouts-Completers				ns
	11th gr. Dropouts-Completers				ns
	12th gr. Dropouts-Completers				*[+]
o Liked Working Hard in School (1980 Survey-BB061E; 1982 Survey-FD13D)	10th gr. Dropouts-Completers		ns		ns
	11th gr. Dropouts-Completers		*[+]		ns
	12th gr. Dropouts-Completers		*[+]		ns
o Took a Minimum Competency Test (1980 Survey-BB055; 1982 Survey-FD18)	10th gr. Dropouts-Completers		ns		ns
	11th gr. Dropouts-Completers		ns		ns
	12th gr. Dropouts-Completers		ns		ns
o Time Spent Reading for Pleasure (1980 Survey-BB049B)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		

TABLE A-1—Continued

Dependent Variables	Comparison Groups	9th Grade Only	9th - 10th Grades	9th - 11th Grades	9th - 12th Grades
o Time Spent Reading Front Page of Newspaper (1980 Survey-BB047H)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Hours Spent Watching TV per Day (1980 Survey-BB048; 1982 Survey-FD71A)	10th gr. Dropouts-Completers		ns		*(+)
	11th gr. Dropouts-Completers		ns		*(+)
	12th gr. Dropouts-Completers		ns		*(+)
o Married vs. Not Married (1980 Survey-BB081A; 1982 Survey-FD71A)	10th gr. Dropouts-Completers		*(+)		*(+)
	11th gr. Dropouts-Completers		ns		*(+)
	12th gr. Dropouts-Completers		ns		*(+)
o Have Had 1st Child vs. Have Not (1980 Survey BB091B; 1982 Survey-FD71B)	10th gr. Dropouts-Completers		*(+)		*(+)
	11th gr. Dropouts-Completers		ns		*(+)
	12th gr. Dropouts-Completers		*(+)		*(+)
o Been in Serious Trouble with Law vs. Not (1980 Survey-BB061A; 1982 Survey-FD73A)	10th gr. Dropouts-Completers		*(+)		*(+)
	11th gr. Dropouts-Completers		*(+)		ns
	12th gr. Dropouts-Completers		ns		ns
o Number of Brothers/ Sisters in College Next Fall (1982-Survey-FD 56)	10th gr. Dropouts-Completers				*(+)
	11th gr. Dropouts-Completers				*(+)
	12th gr. Dropouts-Completers				*(+)
o Number of Brothers/ Sisters in HS Next Fall (1982 Survey-FD-57)	10th gr. Dropouts-Completers				*(+)
	11th gr. Dropouts-Completers				*(+)
	12th gr. Dropouts-Completers				*(+)
o Courses Completed Mathematics (1980 Survey-YB006A)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Courses Completed Science (1980 Survey-YB006G)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		*(-)		
o Courses Completed Eng. or Lit. (1980 Survey-YB006B)	10th gr. Dropouts-Completers		*(-)		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Courses Completed French (1980 Survey-YB006C)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		

TABLE A-1—Continued

Dependent Variables	Comparison Groups	9th Grade Only	9th - 10th Grades	9th - 11th Grades	9th - 12th Grades
o Courses Completed German [1980 Survey-YB006D]	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Courses Completed Spanish [1980 Survey-YB006E]	10th gr. Dropouts-Completers		*[-]		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Courses Completed History or Social Studies [1980 Survey-YB006F]	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		*[+]		
	12th gr. Dropouts-Completers		ns		
o Took Remedial English [1980 Survey-BB011A]	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Took Remedial Math [1980 Survey-11B]	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Took Advanced English [1980 Survey-11C]	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Took Advanced Math [1980 Survey-11D]	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Took a Bilingual Program [1980 Survey-11E]	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		*[-]		
	12th gr. Dropouts-Completers		ns		
o Took Sex Education [1980 Survey-11F]	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Took Drug Abuse Education [1980 Survey-11G]	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Took Education Handicapped Program [1980 Survey-11H]	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Participated in Special Program for Pregnant Girls [1980 Survey-BB014G]	10th gr. Dropouts-Completers		*[+]		
	11th gr. Dropouts-Completers		*[+]		
	12th gr. Dropouts-Completers		*[+]		

TABLE A-1—Continued

Dependent Variables	Comparison Groups	9th Grade Only	9th - 10th Grades	9th - 11th Grades	9th - 12th Grades
o Participated in CETA Program (1980 Survey-BB014H)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		*(+)		
o Courses Planned 11 & 12 gr. Mathematics (1980 Survey-YB009A)	10th gr. Dropouts-Completers		*(-)		
	11th gr. Dropouts-Completers		*(-)		
	12th gr. Dropouts-Completers		ns		
o Courses Planned 11 & 12 gr. Eng. or Lit. (1980 Survey-YB009B)	10th gr. Dropouts-Completers		*(-)		
	11th gr. Dropouts-Completers		*(-)		
	12th gr. Dropouts-Completers		ns		
o Courses Planned 11 & 12 gr. French (1980 Survey-YB009C)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Courses Planned 11 & 12 gr. German (1980 Survey-YB009D	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Courses Planned 11 & 12 gr. Spanish (1980 Survey-YB009E)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		ns		
o Courses Planned 11 & 12 gr. History or Social Studies (1980 Survey-YB009F)	10th gr. Dropouts-Completers		*(-)		
	11th gr. Dropouts-Completers		*(-)		
	12th gr. Dropouts-Completers		ns		
o Courses Planned 11 & 12 gr. Science (1980 Survey-YB009G)	10th gr. Dropouts-Completers		*(-)		
	11th gr. Dropouts-Completers		*(-)		
	12th gr. Dropouts-Completers		ns		
o Time Spent on Extra-curricular Activities (1980 Survey-BB032B through YB0346)	10th gr. Dropouts-Completers		ns		
	11th gr. Dropouts-Completers		ns		
	12th gr. Dropouts-Completers		*(+)		

APPENDIX B

SUMMARY OF THE PARTIAL CORRELATIONS BETWEEN SELECTED SCHOOL-RELATED VARIABLES AND DROPOUT RATE

TABLE A-2

PARTIAL CORRELATIONS OF SELECTED SCHOOL-RELATED VARIABLES WITH DROPOUT RATE

Variable ID	Description	Range of Values	Partial Correlation
A. VOCATIONAL-RELATED VARIABLES			
Schtype 1	School Type—Voc. vs. Comprehensive	1 (Voc)-0 (Comp)	.01
Schtype 2	School Type—Other vs. Comprehensive	1 (Other) 0 (Comp)	.08*
SB017C1Y	Percent 10th grade in Ag. program	0 to 100	.02
SB017C1E	Percent 12th grade in Ag. program	0 to 100	-.01
SB017C2Y	Percent 10th grade in Bus. program	0 to 100	.06
SB017C2E	Percent 12th grade in Bus. program	0 to 100	.03
SB017C3Y	Percent 10th grade in DE program	0 to 100	-.00
SB017C3E	Percent 12th grade in DE program	0 to 100	.03
SB017C4Y	Percent 10th grade in Health program	0 to 100	.01
SB017C4E	Percent 12th grade in Health program	0 to 100	.03
SB017C5Y	Percent 10th grade in Home Ec program	0 to 100	.02
SB017C5E	Percent 12th grade in Home Ec program	0 to 100	.05
SB017C6Y	Percent 10th grade in T&I program	0 to 100	.06
SB017C6E	Percent 12th grade in T&I program	0 to 100	.09**
SB017C7Y	Percent 10th grade in Technical program	0 to 100	.01
SB017C7E	Percent 12th grade in Technical program	0 to 100	.01
SB018C	Auto mechanics taught in school?	2(yes)-1(no)	.09**
SB027C	Is a career information center available?	2(yes)-1(no)	.08**
SB029AC	School offers work experience credit?	2(yes)-1(no)	.09**
SB029AF	School offers alternative school program?	2(yes)-1(no)	.02
SB029AH	School offers continuation school?	2(yes)-1(no)	.01
SB030A	Percent 10th grade off school campus	0-100	-.02
SB030B	Percent 12th grade off school campus	0-100	-.02
SB031	Is an area voc. school available?	2(yes)-1(no)	.03
SB032G	School/students participate in CETA program?	2(yes)-1(no)	.02
SB032H1	School/students in VEA Consumer/Home pro?	2(yes)-1(no)	-.00
SB032H2	School/students in VEA Basic program?	2(yes)-1(no)	.03
SB032H3	School/students in VEA 63 Special Needs?	2(yes)-1(no)	.05
SB032H4	School/students in VEA 63 Co-op program?	2(yes)-1(no)	.08*
SB032H5	School/students in VEA 63 Work-Study pro?	2(yes)-1(no)	.04
WSCAMP	Work-Study program offered on campus only	2(yes)-1(no)	.08
WSOFF	Work-Study program—off campus only	2(yes)-1(no)	.18*
WSBOTH	Work-Study offered both off and on campus	2(yes)-1(no)	.13**

*p<.05

**p<.01

TABLE A-2--Continued

Variable ID	Description	Range of Values	Partial Correlation
FS14	Percent 12th grade off school campus[1982]	0-100	.06
FS15	Is an area voc. school available? [82]	2[yes]-1[no]	.01
FS17G	School/students participate in CETA program? [82]	2[yes]-1[no]	.03
FS17H1	School/students in VEA 63 Consumer/Home program? [82]	2[yes]-1[no]	.08*
FS17H2	School/students in VEA 63 Basic prog?[82]	2[yes]-1[no]	.03
FS17H3	School/students in VEA 63 Special Needs program? [82]	2[yes]-1[no]	.03
FS17H4	School/students in VEA 63 Co-op prog?[82]	2[yes]-1[no]	.08*
FS17H5	School/students in VEA 63 Work-Study program? [82]	2[yes]-1[no]	.07*
FS42I	HS goal-voc training in school? [82]	2[yes]-1[no]	.04
FS42J	HS goal-voc training out school? [82]	2[yes]-1[no]	.01
FS13AC	School offers work experience prog? [82]	2[yes]-1[no]	.10**
FS13AF	School offers alternative school prog?[82]	2[yes]-1[no]	.04
FS13AH	School offers continuation school? [82]	2[yes]-1[no]	-.03
B. OTHER SCHOOL-RELATED VARIABLES			
FS7	Ability grouping used in 12th grade Eng?	2[yes]-1[no]	.06
FS8	Required to pass min. competency test to graduate?	2[yes]-1[no]	.10**
FS11	Remedial failures prog. avail. min. competency	2[yes]-1[no]	.04
FS13AA	School offers credit by contract?	2[yes]-1[no]	-.01
FS13AD	School offers advanced placement?	2[yes]-1[no]	-.01
FS13AG	School offers program for pregnant girls?	2[yes]-1[no]	-.01
FS13AI	School offers gifted program?	2[yes]-1[no]	.07
FS13AJ	School offers bilingual program?	2[yes]-1[no]	.03
FS13AP	School offers remedial basic skills?	2[yes]-1[no]	.02
FS13AQ	School offers computer courses?	2[yes]-1[no]	.09**
FS13AR	School offers instructional TV?	2[yes]-1[no]	.02
FS13BA4	ESL not taught in school?	2[yes]-1[no]	-.06
FS13BB4	Mother tongue not offered?	2[yes]-1[no]	.03
FS13BC4	Cultural history not offered?	2[yes]-1[no]	-.07
FS20	School absence recognition time lag	4[>day]-1[<hr]	.14**
FS21	School student AWOL recognition time lag	4[>day]-1[<hr]	.09**
FS23	School has in-school suspension?	2[yes]-1[no]	-.05
FS24	Students are put on probation?	2[yes]-1[no]	-.00
FS26A	School rules—grounds closed at lunch	2[yes]-1[no]	.05
FS26B	School rules—students responsible for damages	2[yes]-1[no]	.04

TABLE A-2--Continued

Variable ID	Description	Range of Values	Partial Correlation
FS26C	School rules--hall passes required	2[yes]-1[no]	.01
FS26D	School rules--no smoking	2[yes]-1[no]	-.01
FS26E	School rules--student dress codes	2[yes]-1[no]	-.03
FS26F	School rules--no secret societies	2[yes]-1[no]	.00
FS26G	School rules--no open display of affections	2[yes]-1[no]	-.00
FS26H	School rules--no bringing materials to class	2[yes]-1[no]	.01
FS26I	School rules--no leaving building at lunch	2[yes]-1[no]	.03
FS27	Number of students referred to administration	0-?	.06
FS29	Percent of teachers who use strict discipline	0-100	.02
FS36A	Problem--student absenteeism	2[yes]-1[no]	.18**
FS36B	Problem--student class cutting	2[yes]-1[no]	.15**
FS36C	Problem--parents' interest in student progress	2[yes]-1[no]	.11**
FS36D	Problem--parents' interest in school	2[yes]-1[no]	.15**
FS36E	Problem--teacher absenteeism	2[yes]-1[no]	.03
FS36F	Problem--teacher motivation	2[yes]-1[no]	.04
FS36G	Problem--robbery and theft	2[yes]-1[no]	.09*
FS36H	Problem--vandalism	2[yes]-1[no]	.14**
FS36I	Problem--drugs and alcohol	2[yes]-1[no]	.08*
FS36J	Problem--rape	2[yes]-1[no]	.08*
FS36K	Problem--weapons	2[yes]-1[no]	.14**
FS36L	Problem--verbal abuse of teachers	2[yes]-1[no]	.08*
FS39	Entrance exam required?	2[yes]-1[no]	-.00
FS42A	HS goal--aid social development?	2[yes]-1[no]	.00
FS42B	HS goal--citizenship?	2[yes]-1[no]	.00
FS42C	HS goal--basic skills?	2[yes]-1[no]	.03
FS42D	HS goal--post graduation plans?	2[yes]-1[no]	-.03
FS42E	HS goal--critical thinking?	2[yes]-1[no]	.01
FS42F	HS goal--informed consumers?	2[yes]-1[no]	.00
FS42G	HS goal--preparation for postsecondary school?	2[yes]-1[no]	.03
FS42H	HS goal--self-understanding?	2[yes]-1[no]	-.02
FS42K	HS goal--broad general education?	2[yes]-1[no]	.01
FS42L	HS goal--computer proficiency?	2[yes]-1[no]	.08*

APPENDIX C

DESCRIPTIVE INFORMATION CONCERNING THE SELECTED EXEMPLARY DROPOUT PREVENTION PROGRAMS

LISTING OF SELECTED EXEMPLARY PROGRAMS

Alternative School 311 North 10th St. Cour D'Alene, ID 83814	Roger Hansen, Director (208) 667-7460
CVET Program Westville Area Vocational School Westville, OK	Paul Roberts, Director (918) 723-5644
Extended School Day Program Washington High School Eighth and Harvey St. Washington, NC 27889	Mike Occhipinpi, Director (919) 946-7088
GRADS Cincinnati Public Schools Cincinnati, OH	Jane Arnold, Home Economics Supervisor (513) 369-4887
New Horizons Program Westover Senior High School 277 Bonanza Dr. Fayetteville, NC 28303	Peggy Reaves, Vocational Director (919) 323-1411
Peninsula Academies 480 James Ave. Redwood City, CA 94062	Marilyn Raby, Director of Special Projects (415) 359-1411
Project CLIMB Linden School 70 Highland St. Brockton, MA 02401	Chuck Minichiello, Director (617) 580-7227
STEP Public/Private Ventures 399 Market St. Philadelphia, PA 19106	Tom Smith, Director (215) 592-9099
Vocational Support Service Team Project Bureau for Improving Services Chicago Public Schools 1819 West Pershing Rd. Chicago, IL 60609	Marge Pico, Director (312) 890-8850

SUMMARY PROGRAM DESCRIPTIONS

Program: Alternative School
Cour D'Alene, ID

Background: Begun in August 1978, the Alternative School serves dropouts, pregnant girls, single mothers, and others with weak attachment to school. The school serves about 120 students annually, with 8 teachers and 3 day-care aides. The nonsalary and facility costs are $27,500/year.

Program Operations/Activities:

Which of the following strategies are employed in the program?

___ Counseling
X Supportive services
X Parental involvement
X Remedial-basic skills instruction
X Work experience and job placement
X In-school vocational instruction

___ Other— _____

Is the program presented in a context that differs from a "traditional school environment?"

__ No X Yes - Alternative School

Does the program involve--

o special motivational strategies?
__ No X Yes - Each teacher builds in motivational work in his or her teaching and work students.

o individualized teaching/learning?
__ No X Yes - All work is individualized.

What percentage of the program's efforts are directed toward addressing students'—

o personal needs? 33 %
o education/remediation needs? 33 %
o work-related needs? 33 %

o activities to improve teacher/student relations?
X No ___ Yes - _____

What is the most critical thing about the program that makes it a success?
Staff--the relationship between staff and student is key.

Program Evaluation:

What could/should be changed/dropped to make the program more effective? - Nothing.

Recommendation(s) regarding the use of the program or other vocational experiences as part of a dropout prevention program. - Hands-on training must be included. Student involvement, attendance standards, day care are needed for programs for their target students.

Program: Coordinated Vocational Education and Training (CVET)
Westville, OK

Background: The CVET program began in 1970 and has an annual enrollment of 19-36 students. It is designed as a 2-year program to serve 9th and 10th grade economically and/or academically disadvantaged students who are behind in school and have been indentified by the counselor as potential dropouts. The program has a staff of three (vocatonal teacher, related math teacher, and related English teacher). Costs are about $27,000 per year, not counting books and using part-time teacher.

Program Operations/Activities:

Which of the following strategies are employed in the program?

___ Counseling
___ Supportive services
X Parental involvement
X Remedial-basic skills instruction
X Work experience and job placement
X In-school vocational instruction
___ Other— _____

What percentage of the program's efforts are directed toward addressing students'—

- o personal needs? 20 %
- o education/remediation needs? 30 %
- o work-related needs? 50 %

Is the program presented in a context that differs from a "traditional school environment?"

__ No X Yes - _____

Does the program involve—

- o special motivational strategies?

__ No X Yes - Attempts to have students feel successful.

- o individualized teaching/learning?

__ No X Yes - All instruction is broken down into individual components. Each student progresses at own speed.

- o activities to improve teacher/student relations?

__ No X Yes - All work is tied into shop activities.

What is the most critical thing about the program that makes it a success? The program is flexible so students do not lose interest. Keeps adjusting students, activities until they find area in which they want to work.

Program Evaluation:

What could/should be changed/dropped to make the program more effective? -

Recommendation[s] regarding the use of the program or other vocational experiences as part of a dropout prevention program. - Need to be flexible and provide a large number of alternatives.

Program: Extended School Day Program
Washington, NC

Background: The Extended School Day Program, begun in December 1980, is an alternative for dropouts and high-risk students. It has an enrollment of about 100 and provides some services to another 100 students. The program, which allows students to have alternative schedules to meet their personal needs, is staffed by a director, secretary, assistant, and 8 part-time teachers. The annual budget is about $175,000.

Program Operations/Activities:

Which of the following strategies are employed in the program?

- X Counseling
- X Supportive services
- X Parental involvement
- X Remedial-basic skills instruction
- X Work experience and job placement
- X In-school vocational instruction
- X Other— Vocational instruction at the community college.

What percentage of the program's efforts are directed toward addressing students'—

- o personal needs? 40 %
- o education/remediation needs? 40 %
- o work-related needs? 20 %

Is the program presented in a context that differs from a "traditional school environment?"

__ No X Yes - Hours are flexible from 8:00am to 8:00pm

Does the program involve—

- o special motivational strategies?

__ No X Yes - All classes are directed to link skills and daily living.

- o individualized teaching/learning?

__ No X Yes - All classes are individualized with lab settings and student packets.

- o activities to improve teacher student relations?

__ No X Yes - Regularly bring students and teachers together in small classes.

What is the most critical thing about the program that makes it a success?
Flexible schedules to meet students needs and staff willing to be flexible in their approach with students

Program Evaluation:

What could/should be changed/dropped to make the program more effective? - More career development and guidance counseling.

Recommendation(s) regarding the use of the program or other vocational experiences as part of a dropout prevention program. - Vocational work must be relevant to the local labor market. Students must understand importance of degree.

Program: GRADS
Cincinnati, OH

Background: The GRADS (Graduation, Reality, and Dual-Role Skills) is a program to assist adolescent pregnant girls and young parents who are in school. The program began in Cincinnati in 1980 and annually serves 200. Five Home Economics teachers and a supervisor provide the program in the four high schools in the city. The annual budget for equipment, supplemental books, and instructional support is $11,700.

Program Operations/Activities:

Which of the following strategies are employed in the program?

- X Counseling
- X Supportive services
- ___ Parental involvement
- X Remedial-basic skills instruction
- ___ Work experience and job placement
- ___ In-school vocational instruction
- ___ Other— _____

What percentage of the program's efforts are directed toward addressing students'—

- o personal needs? 30 %
- o education/remediation needs? 60 %
- o work-related needs? 10 %

Is the program presented in a context that differs from a "traditional school environment?"

X No ___ Yes - _____

Does the program involve—

- o special motivational strategies?
  __ No X Yes - Regular follow-up by staff. Class projects are related to parenting needs.
- o individualized teaching/learning?
  __ No X Yes - Most classes utilize learning packets and study carrels.
- o activities to improve teacher/
  __ No X Yes - GRADS teachers maintain link with regular staff.

What is the most critical thing about the program that makes it a success?

Teachers—their relationship with the students is what makes the program successful.

Program Evaluation:

What could/should be changed/dropped to make the program more effective? - Basic school counselors must support the goal of assisting expecting parents to stay in school.

Recommendation(s) regarding the use of the program or other vocational experiences as part of a dropout prevention program. - Need teachers to stay on top of students' needs. Must continually emphasize the need for students to stay in school and be aware of alternatives after high school.

Program: New Horizons
Fayetteville, NC

Background: The purpose of this program, begun in 1980, is to develop employability skills and to provide simulated work experience and/or on-the-job training for economically disadvantaged and handicapped students. Each school has 1 vocational lab instructor, 1 job training teacher, and an instructional aide, and serves about 50 students per year.

Program Operations/Activities:

Which of the following strategies are employed in the program?

- X Counseling
- X Supportive services
- X Parental involvement
- X Remedial-basic skills instruction
- X Work experience and job placement
- X In-school vocational instruction
- X Other—Work simulation and independent living skills.

What percentage of the program's efforts are directed toward addressing students'—

- o personal needs? 20 %
- o education/remediation needs? 40 %
- o work-related needs? 40 %

Is the program presented in a context that differs from a "traditional school environment?"

__ No X Yes - Existing vocational labs are used.

Does the program involve--

- o special motivational strategies?

__ No X Yes - Tie between work and school. Give school credits for lab work.

- o individualized teaching/learning?

__ No X Yes - Each student works on own competencies while in lab, based on assessment.

- o activities to improve teacher/student relations?

__ No X Yes - Group decision making. Joint planning.

What is the most critical thing about the program that makes it a success? Staff must be flexible. Program uses vocationally justified placement. The job experience is invaluable, provides student with realistic perspective of work.

What could/should be changed/dropped to make the program more effective? - Nothing.

Recommendation(s) regarding the use of the program or other vocational experiences as part of a dropout prevention program. - Placement must be vocationally justified. Staff is a key.

Program: - Peninsula Academies
Redwood City, CA

Program was begun in 1981 as a means for industry and schools to jointly improve the educational and employment opportunities of dropout-prone, academically disadvantaged 10th graders. The Academies of Electronics and Computer Technology each have about 110 students (45 sophs. 35 jrs., and 30 srs.). The incremental cost of the program is $100,000 per academy.

Which of the following strategies are employed in the program?

- X Counseling
- X Supportive services
- X Parental involvement
- X Remedial-basic skills instruction
- X Work experience and job placement
- X In-school vocational instruction
- X Other—Contract between school and parents to support students and program.

What percentage of the program's efforts are directed toward addressing students'—

- o personal needs? 10 %
- o education/remediation needs? 60 %
- o work-related needs? 30 %

Is the program presented in a context that differs from a "traditional school environment?"

__ No X Yes - School within a school.

Does the program involve-

- o special motivational strategies?

__ No X Yes - Industry mentors system and field trips. Student awards and incentives provided.

- o individualized teaching/learning?

__ No X Yes - Smaller classes (22), and there is daily adult and peer tutoring. Also, some individualized lab work.

- o activities to improve teacher/student relations?

__ No X Yes - Students have same teachers for 3 years.

What is the most critical thing about the program that makes it a success?

Jobs are tied to the program. This program gives students access to jobs that they do not normally have. Also, and perhaps more important, students have a very close relationship with staff and with one another.

What could/should be changed/dropped to make the program more effective? - More parental involvement would be an asset.

Recommendation(s) regarding the use of the program or other vocational experiences as part of a dropout prevention program. - Need strong commitment from staff and industry to provide mentors and jobs. Must get students up to industry standards.

Project CLIMB
Brockton, MA

—Project CLIMB, begun in January 1985, is a dropout prevention program targeted to 14-16 year olds who are habitual truants, potential dropouts, and low academic achievers in schools in the JTPA service delivery area. The staff is 3 teachers, a director/teacher, and an outreach/tracking specialist. The program budget is $200,000/year. The program provides 32 youth in 7th and 8th grade with 4 classes of academics a day plus 3 hours of paid employment or job exploration daily.

Which of the following strategies are employed in the program?

- X Counseling
- X Supportive services
- X Parental involvement
- ___ Remedial-basic skills instruction
- X Work experience and job placement
- X In-school vocational instruction
- ___ Other— Pre-employment.

What percentage of the program's efforts are directed toward addressing students'—

- o personal needs? 20 %
- o education/remediation needs? 50 %
- o work-related needs? 30 %

Is the program presented in a context that differs from a "traditional school environment?"

__ No X Yes - Alternative school for 7th and 8th graders.

Does the program involve--

- o special motivational strategies?
  __ No X Yes - Ties school to workplace.
- o individualized teaching/learning?
  __ No X Yes - Classes are about half group and half individualized.
- o activities to improve teacher/student relations?
  __ No X Yes - Daily contact. Also brings community resources into class.

What is the most critical thing about the program that makes it a success?

Daily contact with students. If they do not show up at school, the family is called and/or visited. Parental support and involvement are required.

What could/should be changed/dropped to make the program more effective? - Nothing--new program appears to be doing well.

Recommendation(s) regarding the use of the program or other vocational experiences as part of a dropout prevention program. - Strengthen school/business partnership. Include employability training and work skills--may be more important than technical training.

STEP

Boston; Portland, OR; Seattle; San Diego; Fresno, CA

The Summer Training and Education Program [STEP] began in the summer, 1985 at five sites nationwide. [A pilot was successfully completed at three sites in the Summer, 1984.] This JTPA-funded program serves 14- and 15-year old, economically and academically disadvantaged youth. The program provides a combination of work experience, remedial education, and life skills instruction over 2 summers for about 150 youth per site. A variety of support services are provided during the intervening school year to reinforce participants' involvement in the program.

Which of the following strategies are employed in the program?

___ Counseling
X Supportive services
X Parental involvement
X Remedial-basic skills instruction
X Work experience and job placement
___ In-school vocational instruction
X Other—Summer-half day work experience; life skills instruction in responsible sexual and social behavior.

What percentage of the program's efforts are directed toward addressing students'—

- o personal needs? 10 %
- o education/remediation needs? 50 %
- o work-related needs? 40 %

Is the program presented in a context that differs from a "traditional school environment?"

— No X Yes - The summer program is 1/2 a day work experience and 1/2 a day remediation and life skills.

Does the program involve--

- o special motivational strategies?

__ No X Yes - A variety of group activities to build espirit de corps with logo t-shirts, awards, and incentives.

- o individualized teaching/learning?

__ No X Yes - Small classes, 1:15 teacher/student ratio, 20 percent of time is on computers.

- o activities to improve teacher/student relations?

X No ___ Yes - _____

What is the most critical thing about the program that makes it a success?

Holistic approach and timing [14-and 15-year-olds]. Must reach youth at these ages; older youth are much more difficult to effect.

What could/should be changed/dropped to make the program more effective? - Nothing at this time; a rigorous ongoing evaluation being performed. Will follow participants thru 1992.

Recommendation(s) regarding the use of the program or other vocational experiences as part of a dropout prevention program. - Get kids early, use holistic approach; need remediation and life skills along with work experience.

Vocational Support Service Team Project
[Chicago, IL]

—The Vocational Support Service Team Project, begun in 1980, provides assistance to handicapped, limited English speaking, and economically disadvantaged students, identified by teachers as needing assistance, in the 70 high schools in Chicago. With a central staff of 8, the program services are divided into 3 areas: assessment, peer tutoring, and vocational articulation (postsecondary vocational and academic training and employment). Each school has various components; the project is based upon needs and budget. The school programs are staffed primarily by part-time persons supplemented by a full-time vocational aide, student tutors, bilingual college tutors, and career planners.

Which of the following strategies are employed in the program?

- X Counseling
- X Supportive services
- X Parental involvement
- X Remedial-basic skills instruction
- ___ Work experience and job placement
- ___ In-school vocational instruction
- ___ Other-- _____

What percentage of the program's efforts are directed toward addressing students'—

- o personal needs? 40 %
- o education/remediation needs? 50 %
- o work-related needs? 10 %

Is the program presented in a context that differs from a "traditional school environment?"

X No ___ Yes - Supports ongoing school programs.

Does the program involve--

- o special motivational strategies?
  __ No X Yes - Zigziler motivational training for vocational teachers. Motivational seminars for students stress holistic approach.
- o individualized teaching/learning?
  __ No X Yes - Peer tutoring and resource centers. Computerized remedial training. Encourage individual teachers to have own resource centers.
- o activities to improve teacher/student relations?
  __ No X Yes - Team approach, career training seminar.

What is the most critical thing about the program that makes it a success?

The funds go directly to aid the local school student.

What could/should be changed/dropped to make the program more effective? -

Recommendation(s) regarding the use of the program or other vocational experiences as part of a dropout prevention program. - Let students and their parents know about vocational education opportunities. Use vocational education as a means of teaching academics (integrate). Use holistic approach.

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